

KIC 001429653

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
001429653-01	OBS	No	2.338292	133.073068	99.0	10.257	14.2	15.5	1.94	7106	2.25	5066.77
001429653-02	OBS	No	2.337901	132.578796	120.4	18.758	12.8	13.9	1.94	7106	2.86	5067.90

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001429653-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
001429653-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_UNRESOLVED_OFFSET

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

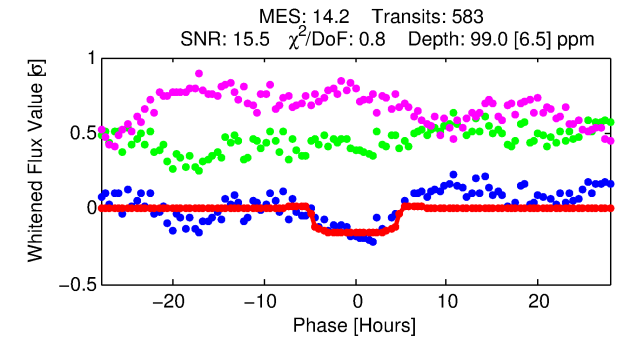
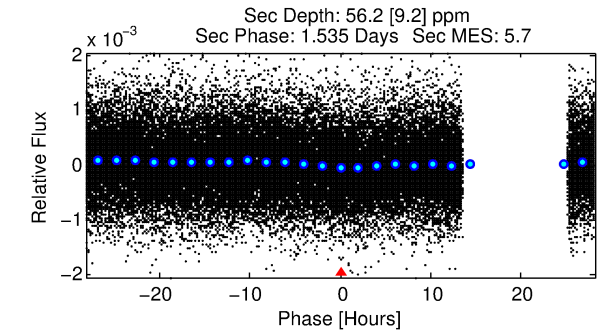
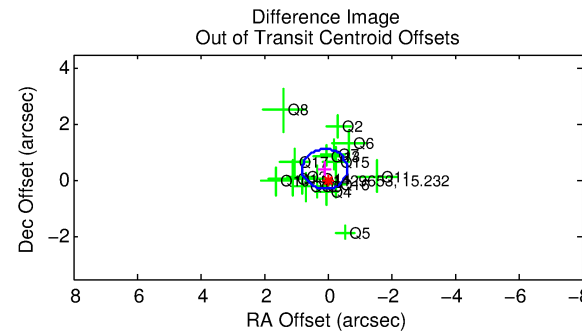
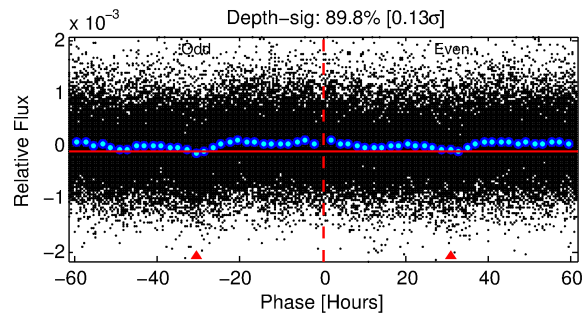
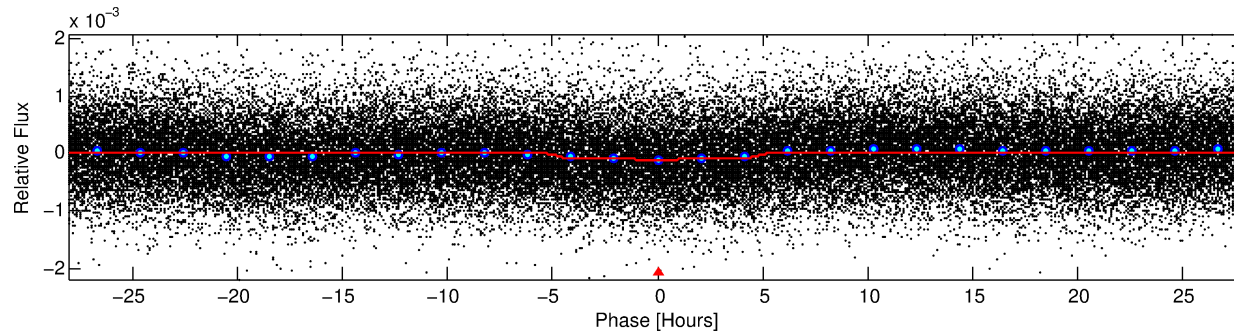
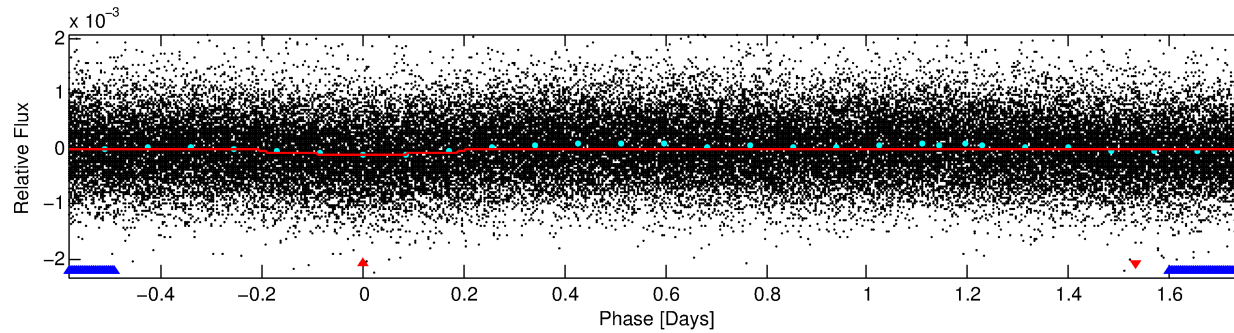
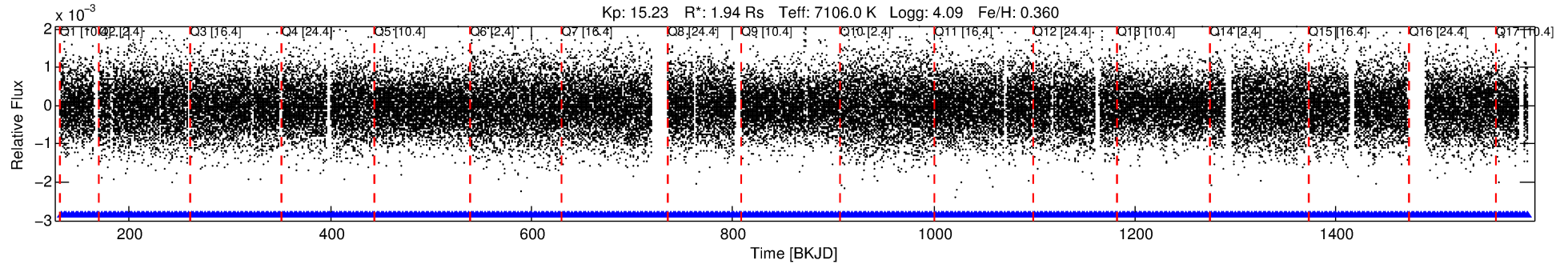
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 001429653-01

No Significant Match Found

DV One-Page Summary

KIC: 1429653 Candidate: 1 of 2 Period: 2.338 d



DV Fit Results:

Period = 2.33829 [0.00003] d
Epoch = 133.0731 [0.0069] BKJD
Rp/R* = 0.0106 [0.0011]
a/R* = 1.22 [0.26]
b = 0.91 [0.13]
Seff = 5066.77 [1148.05]
Teq = 2151 [122] K
Rp = 2.25 [0.47] Re
a = 0.0412 [0.0063] AU
Ag = 10.34 [3.61] [2.59 σ]
Teffp = 5964 [412] K [8.88 σ]

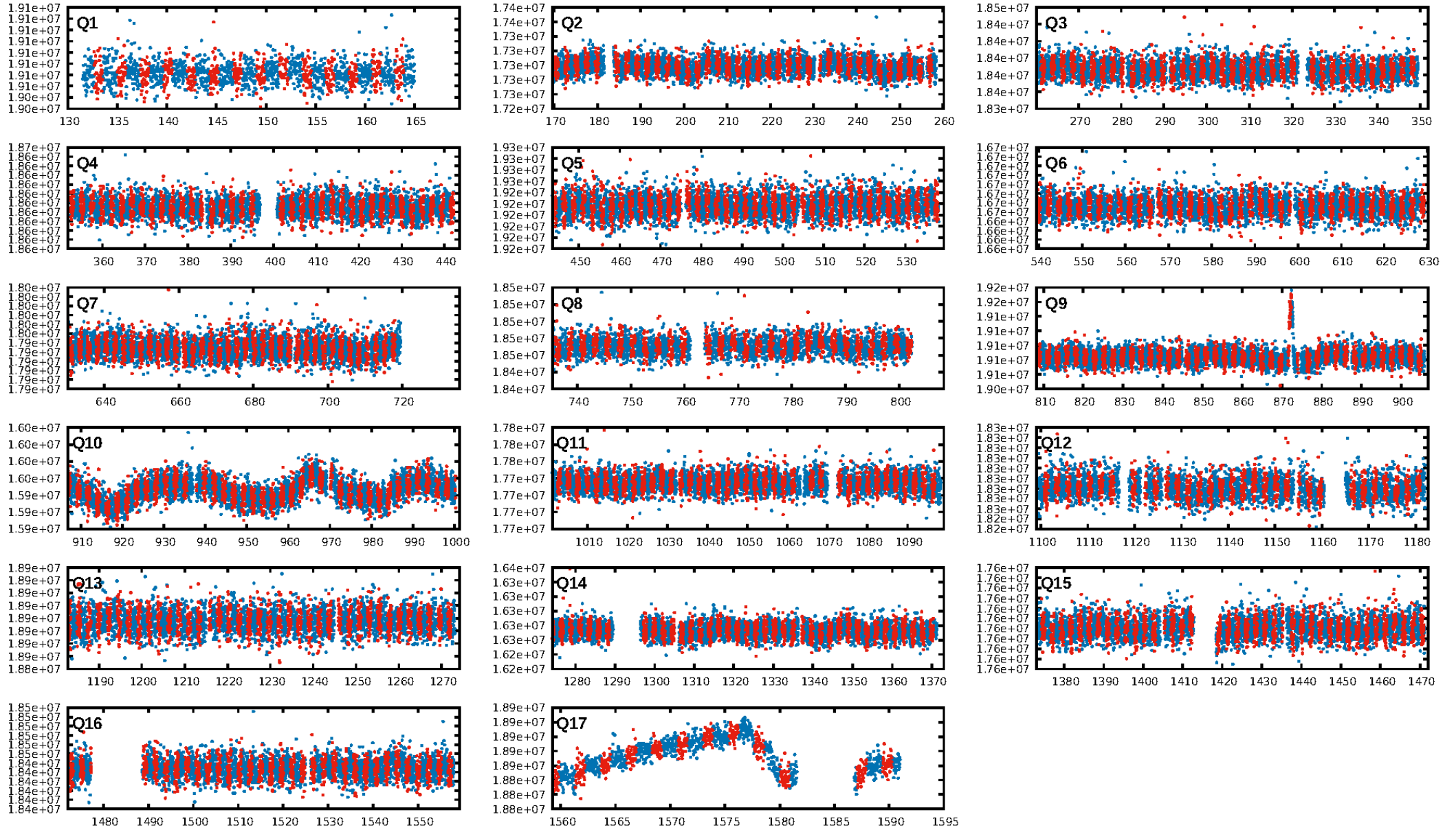
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [557/557]
GhostDiagnostic-chr: 1.736
Centroid-sig: 59.0%
Centroid-so: 1.060 arcsec [1.41 σ]
OotOffset-rm: 0.421 arcsec [1.78 σ]
KicOffset-rm: 0.307 arcsec [1.30 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.88 [15/17]
DiffImageOverlap-fno: 0.00 [0/17]

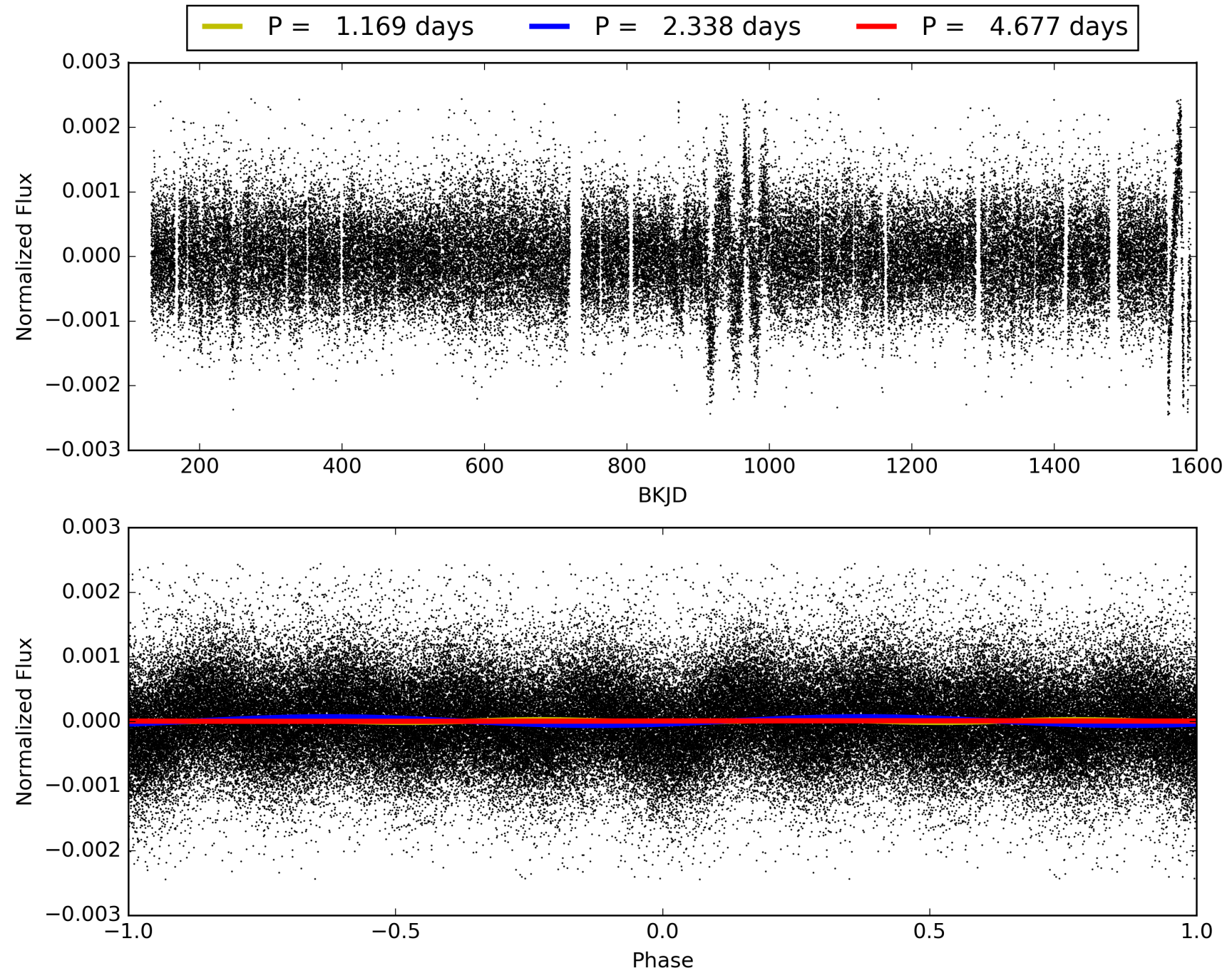
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 20:40:10 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 001429653-01, PDC Light Curves

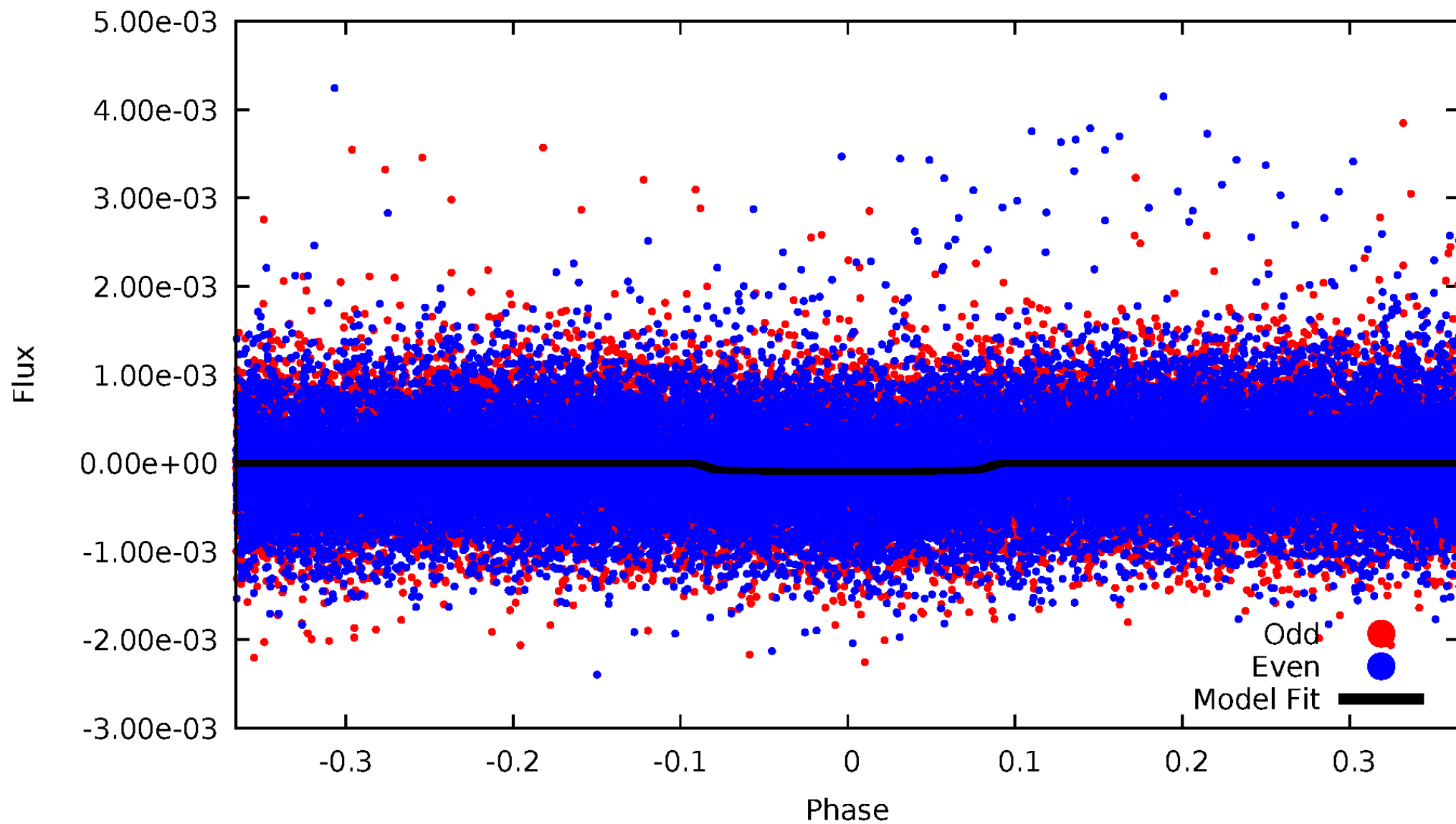


TCE 001429653-01



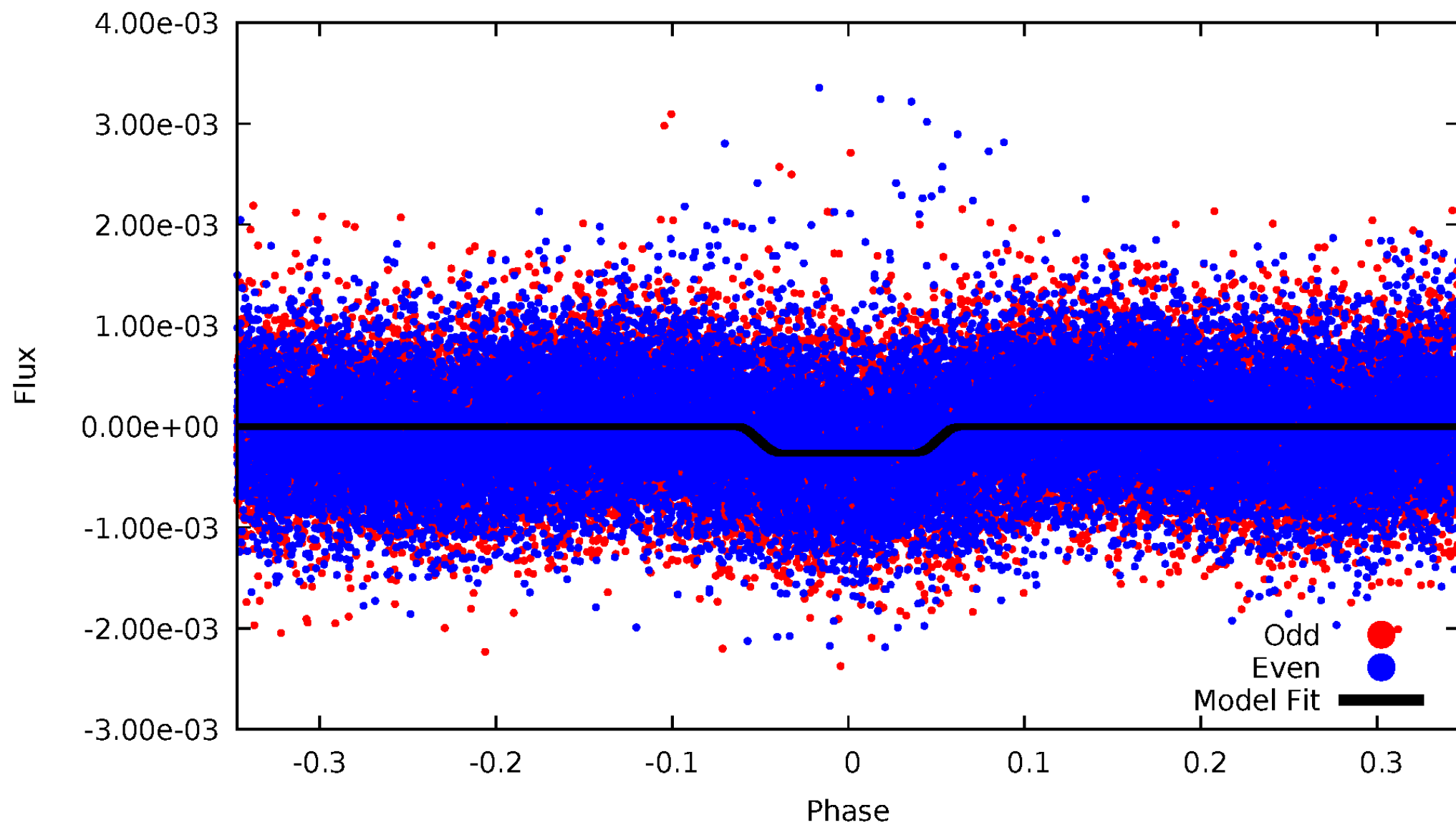
DV Odd/Even

TCE 001429653-01



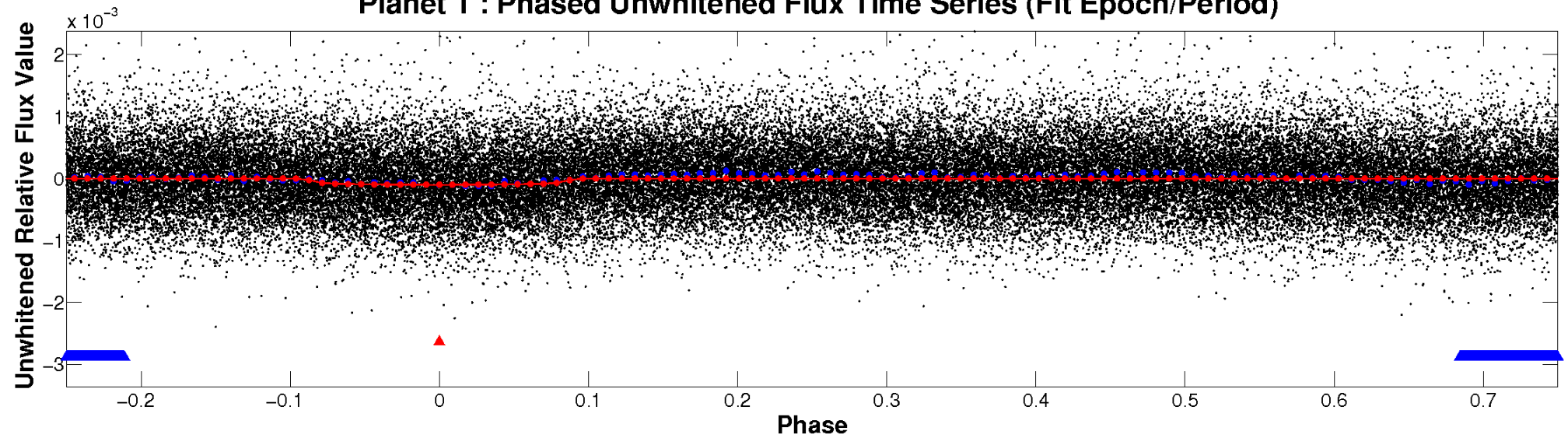
ALT Odd/Even

TCE 001429653-01

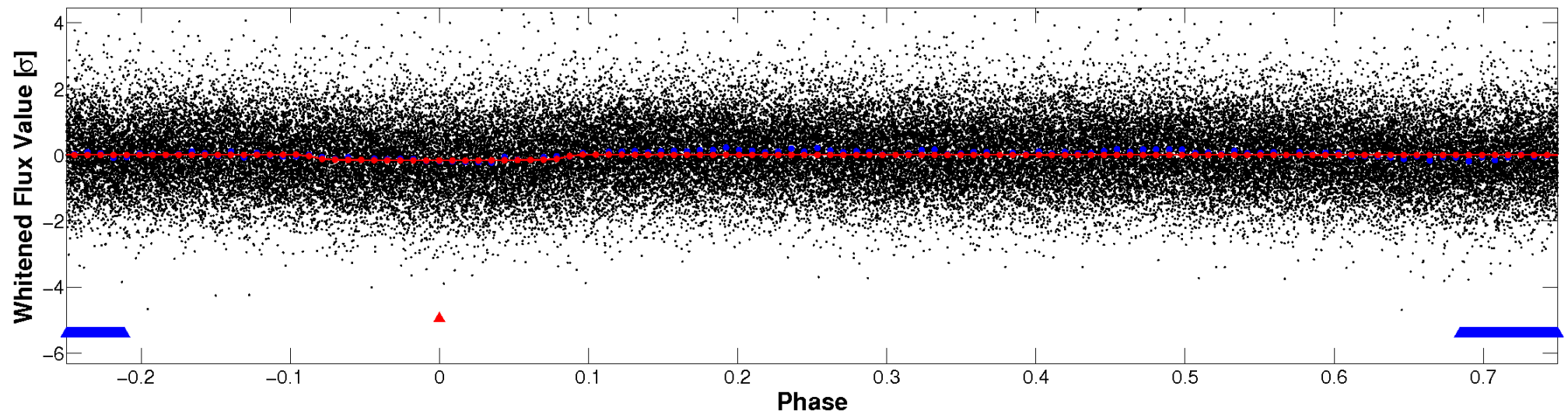


Non-Whitened Vs. Whitened Light Curve

Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

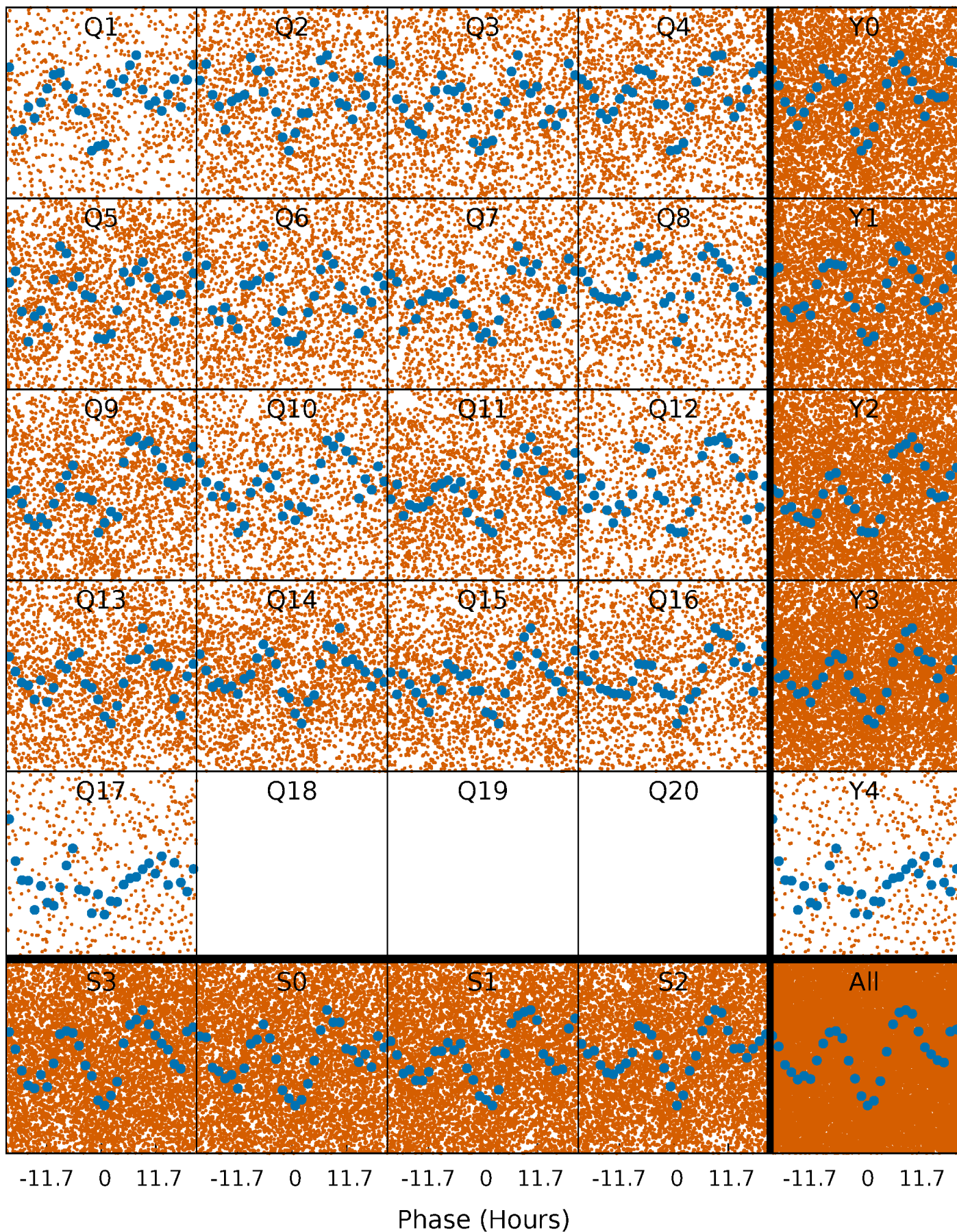


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



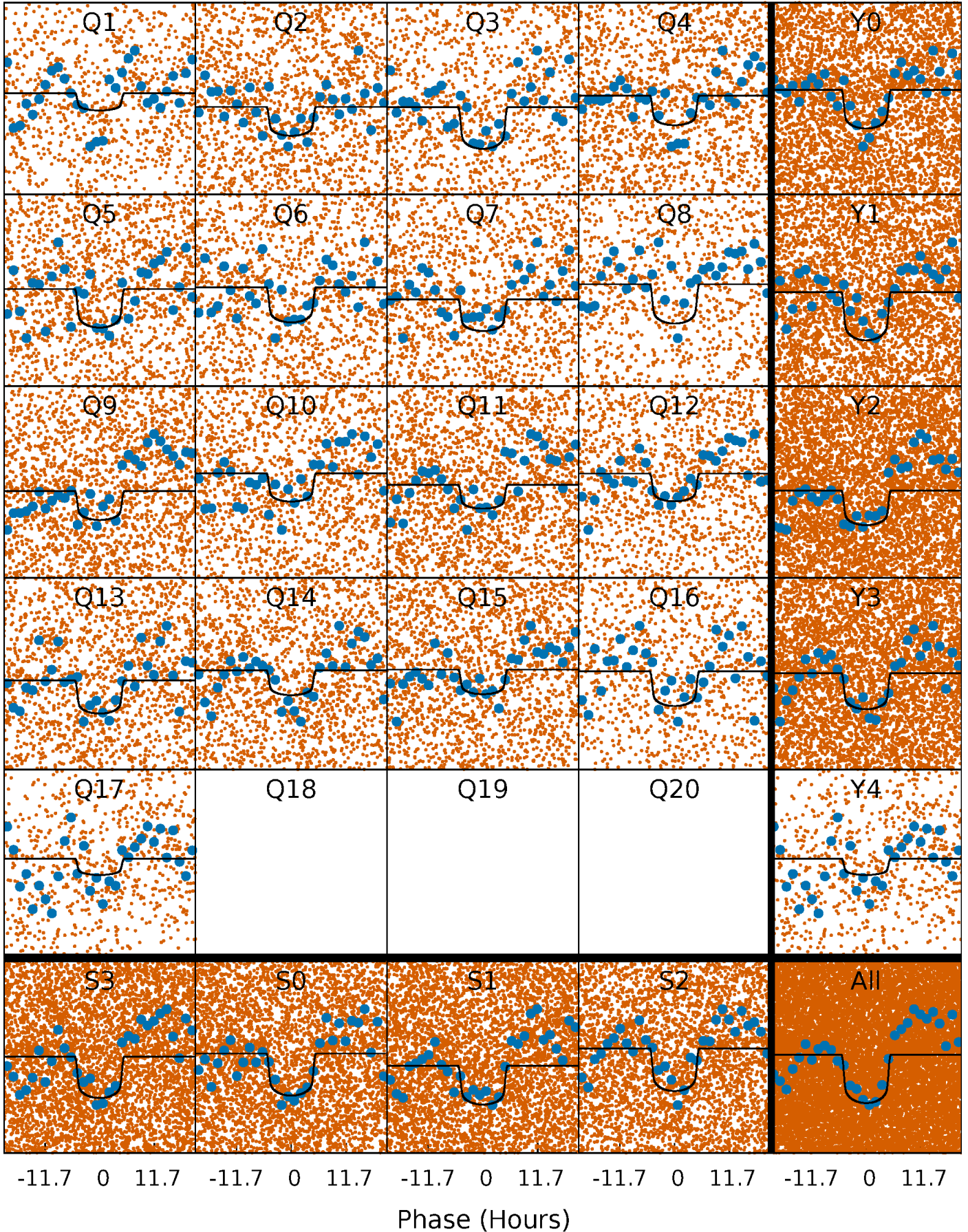
PDC Quarter-Phased Transit Curves

TCE 001429653-01 P= 2.338292 Days $T_0=133.073068$ (BKJD)



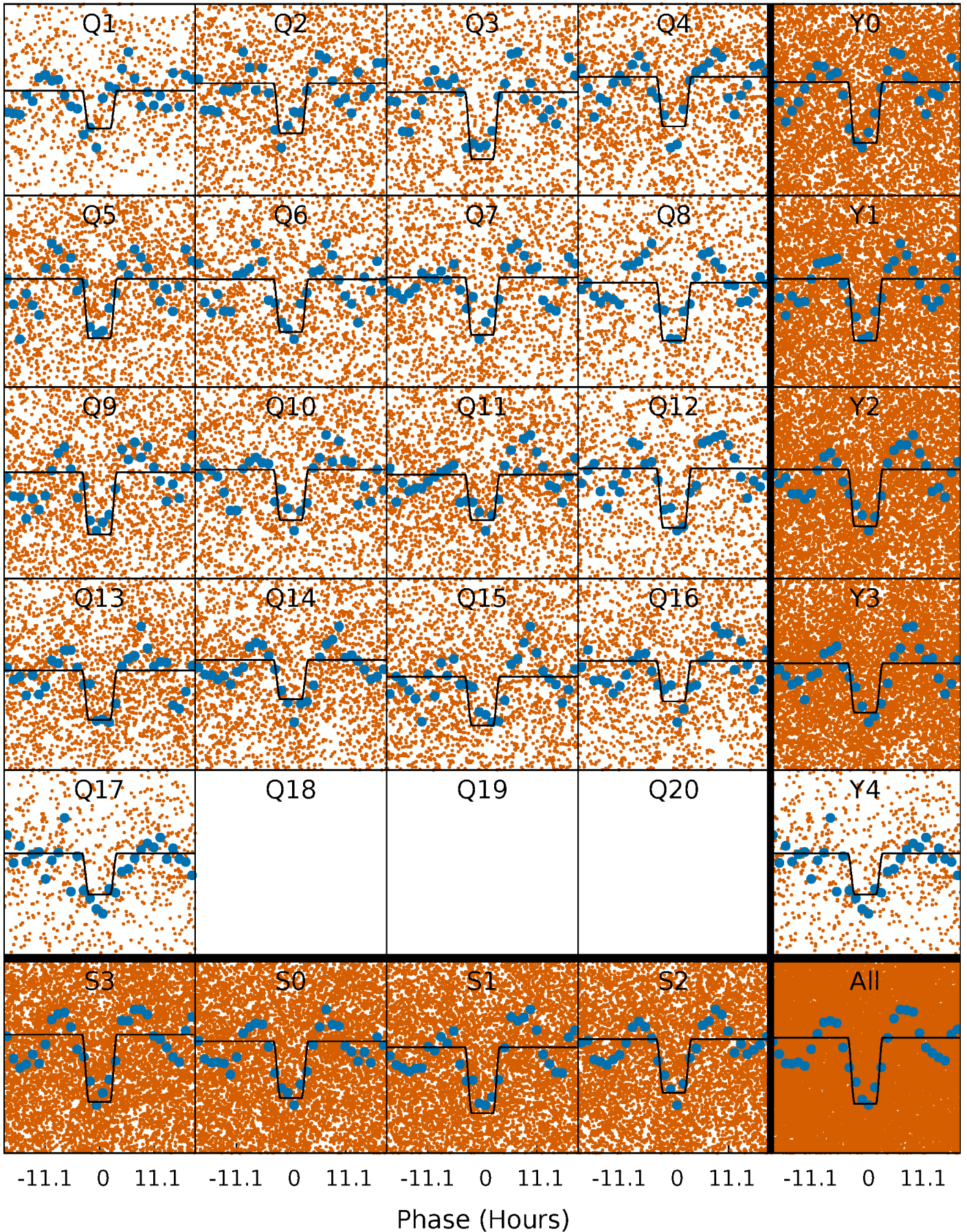
DV Quarter-Phased Transit Curves

TCE 001429653-01 P= 2.338292 Days $T_0=133.073068$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

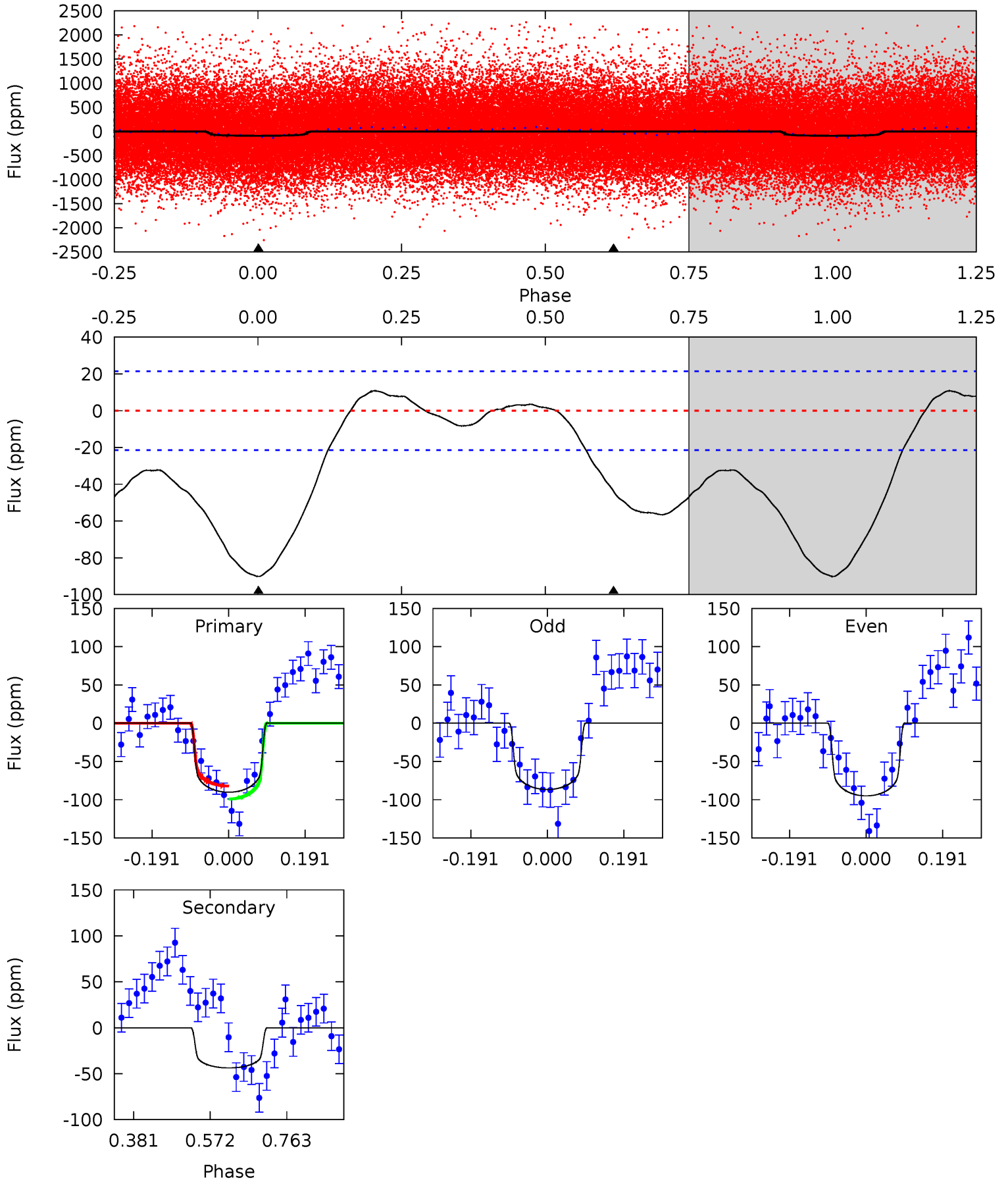
TCE 001429653-01 P= 2.338259 Days $T_0=133.113733$ (BKJD)



DV Model-Shift Uniqueness Test

001429653-01, P = 2.338292 Days, E = 130.734776 Days

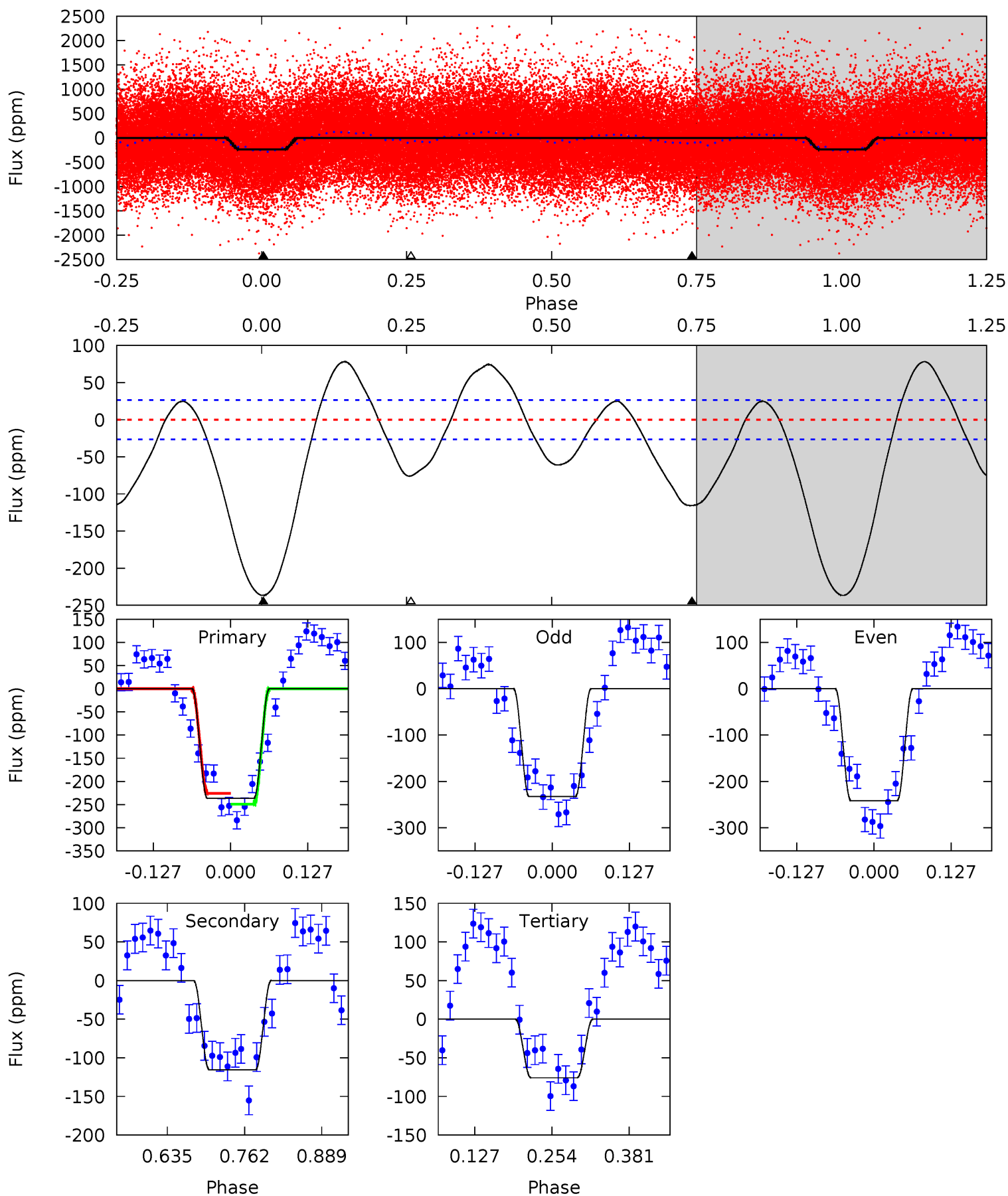
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.6	9.03	0	0	4.43	1.31	1.36	18.6	18.6	9.03	9.03	0.86	1.04	0.11	1.78



Alt Model-Shift Uniqueness Test

001429653-01, P = 2.338259 Days, E = 130.775474 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
40.4	19.7	12.9	0	4.51	1.53	8.33	27.5	40.4	6.77	19.7	0.77	0.93	0.25	1.97



Stellar Parameters For KIC 001429653

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7106^{+63}_{-95}	$4.094^{+0.080}_{-0.120}$	$0.360^{+0.100}_{-0.200}$	$1.940^{+0.351}_{-0.216}$	$1.707^{+0.118}_{-0.118}$	$0.329^{+0.116}_{-0.120}$
	+1%/-1%	+2%/-3%	+28%/-56%	+18%/-11%	+7%/-7%	+35%/-36%
Source	SPE68	SPE68	SPE68	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 001429653-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-44 ± 5	$2.27^{+0.35}_{-0.30}$	3012^{+124}_{-101}	5512^{+350}_{-306}	$7.928^{+2.488}_{-2.110}$
Alt.	-116 ± 6	$3.47^{+0.39}_{-0.35}$	3008^{+124}_{-98}	5685^{+232}_{-213}	$9.003^{+1.931}_{-1.790}$

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

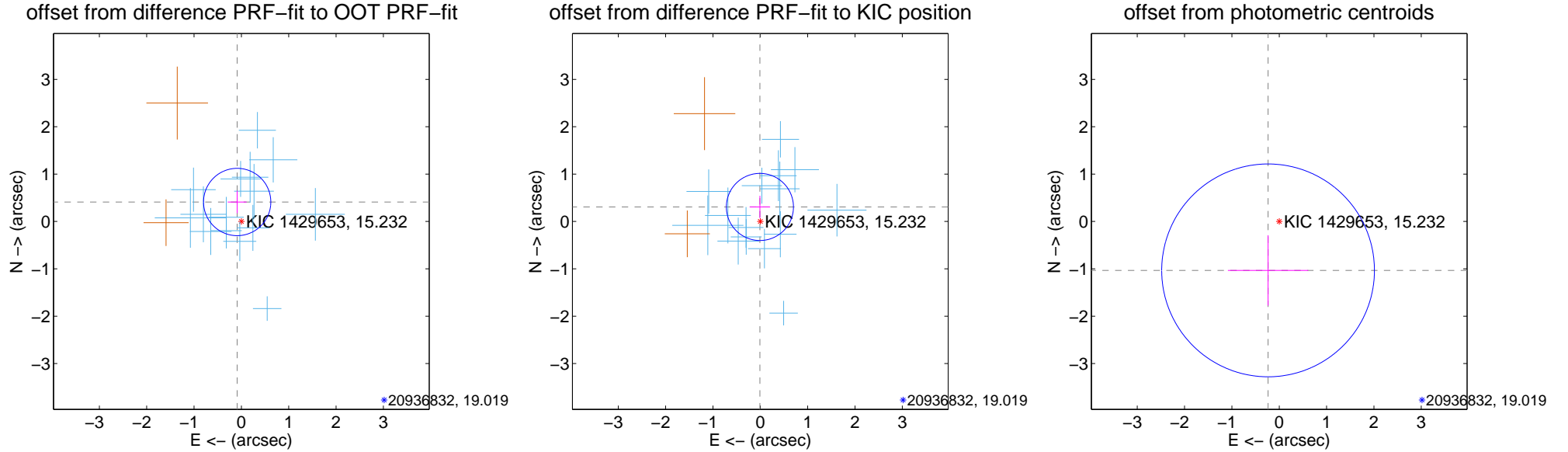
DV Centroid Data

Supplemental centroid analysis for 001429653-01. Kepler magnitude: 15.23. Transit SNR 15.50

There are 15 quarters with good PRF difference image offsets

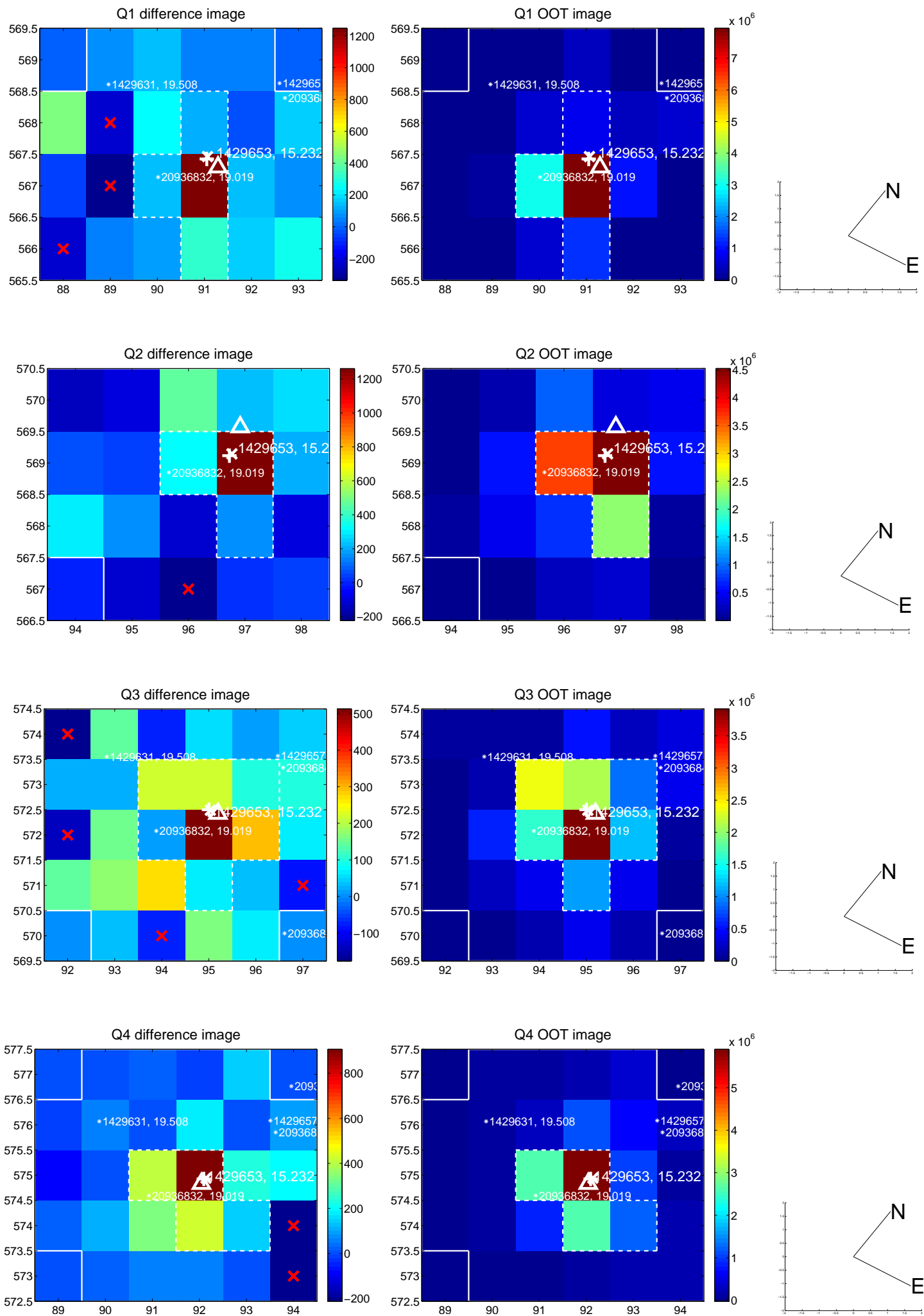
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.421 ± 0.237	1.78	0.089 ± 0.199	0.411 ± 0.235
PRF-fit source offset from KIC position	0.307 ± 0.236	1.30	0.008 ± 0.216	0.307 ± 0.236
photometric centroid source offset	1.06 ± 0.75	1.41	0.24 ± 0.85	-1.03 ± 0.74

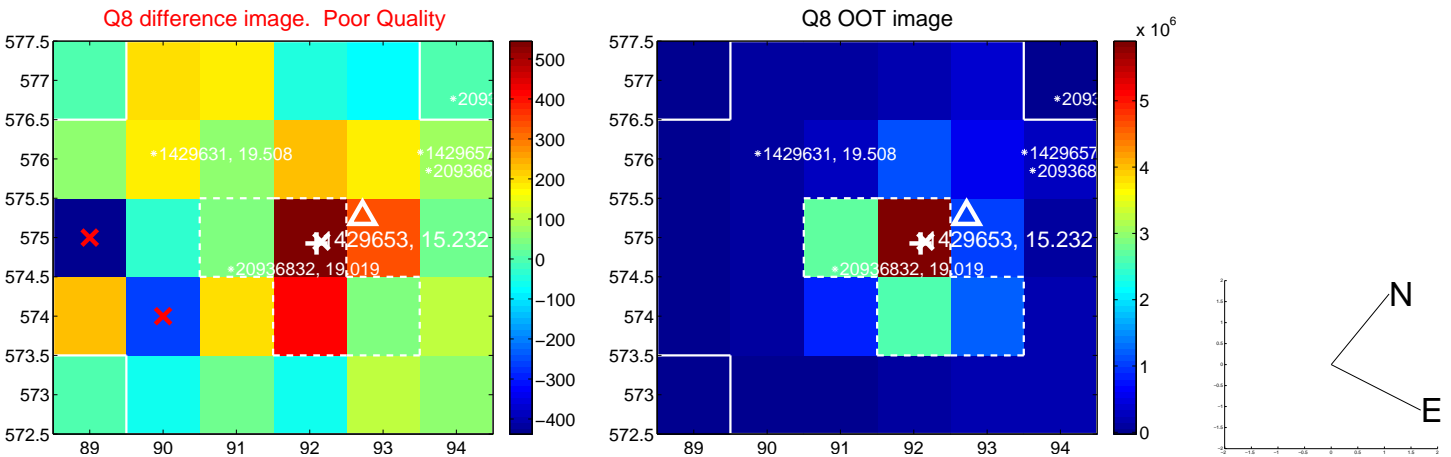
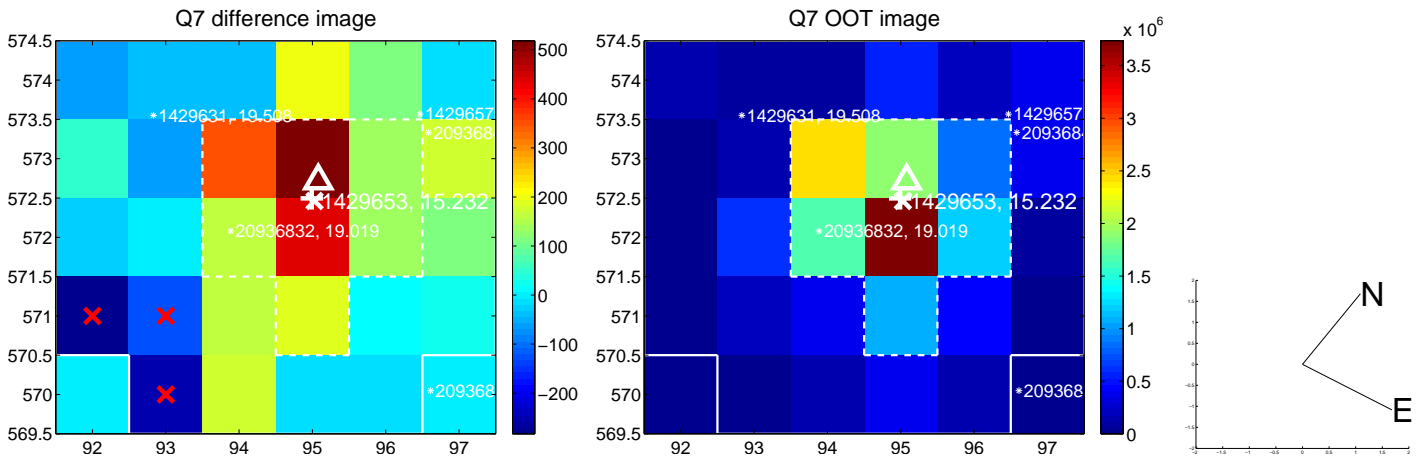
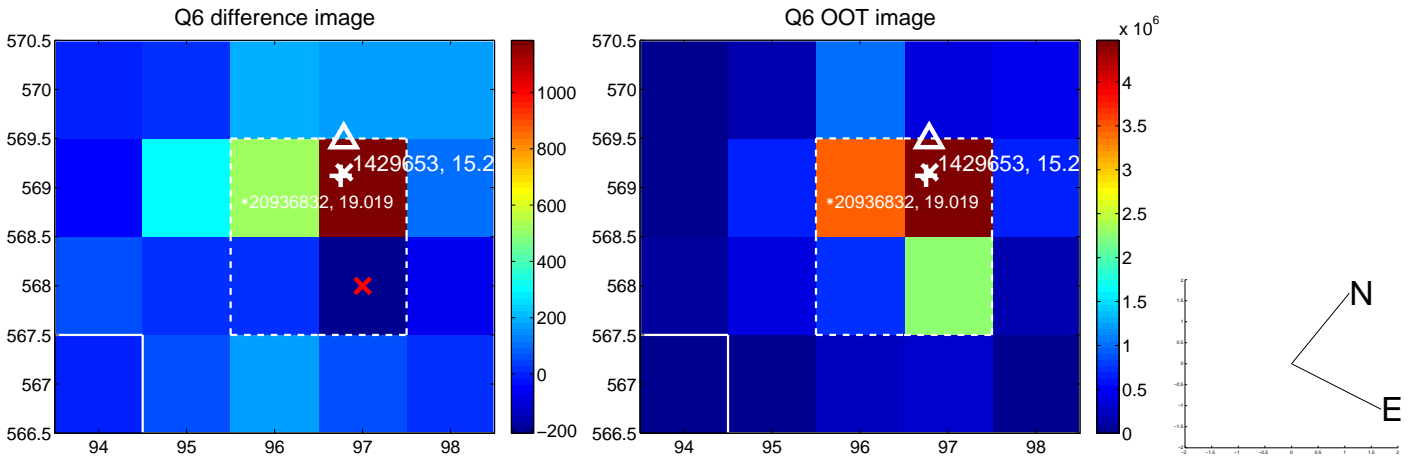
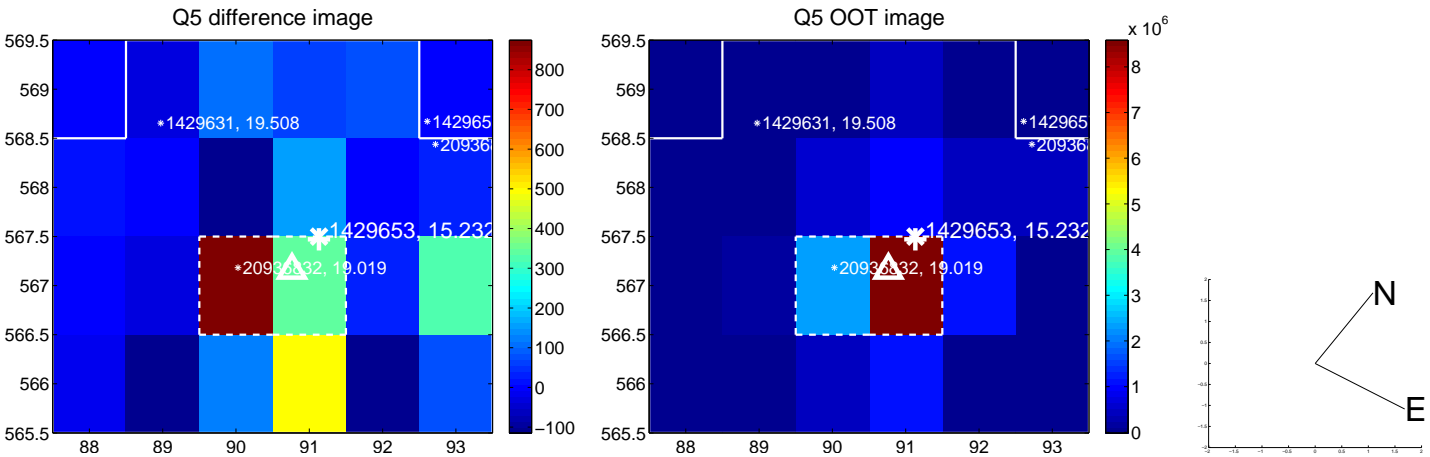


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

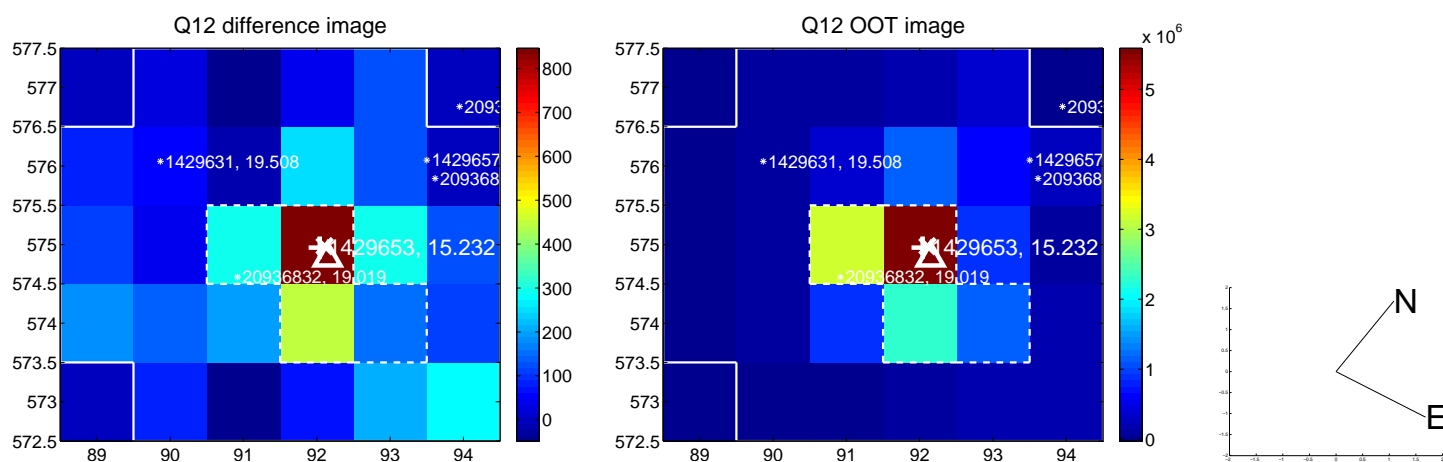
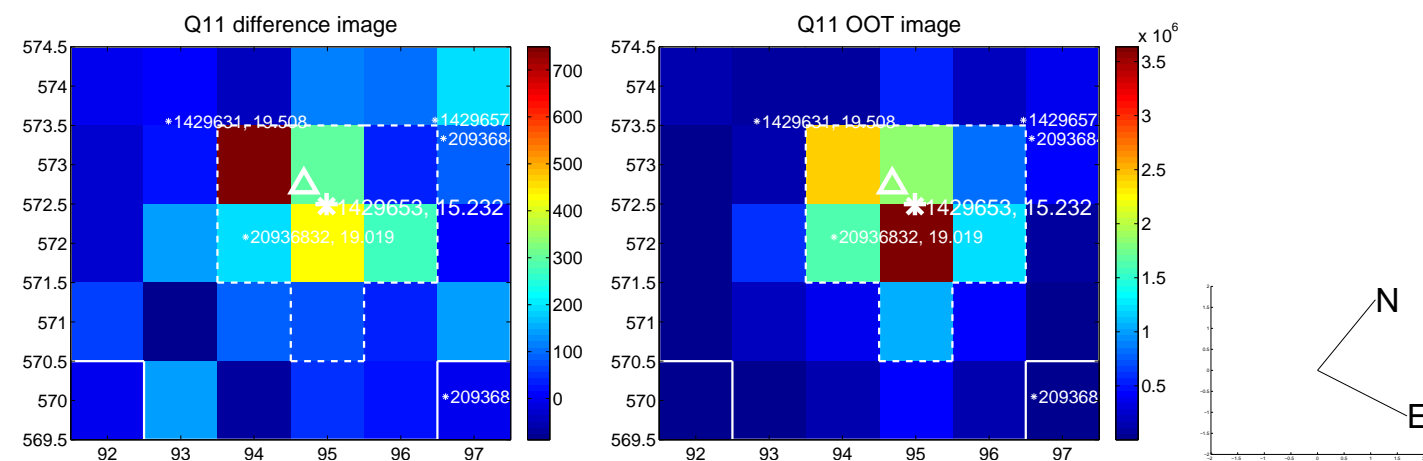
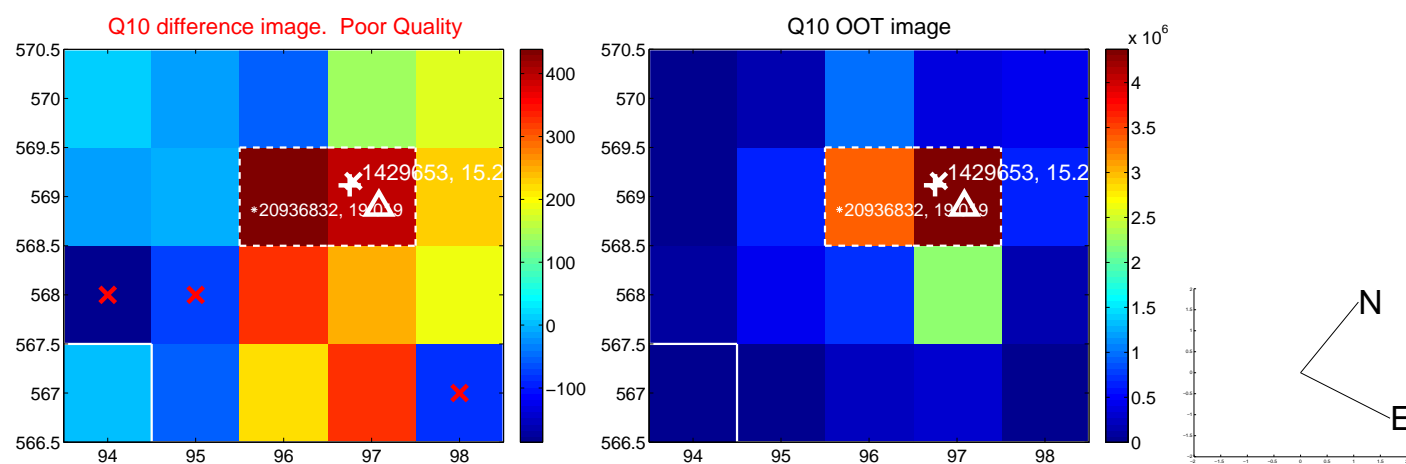
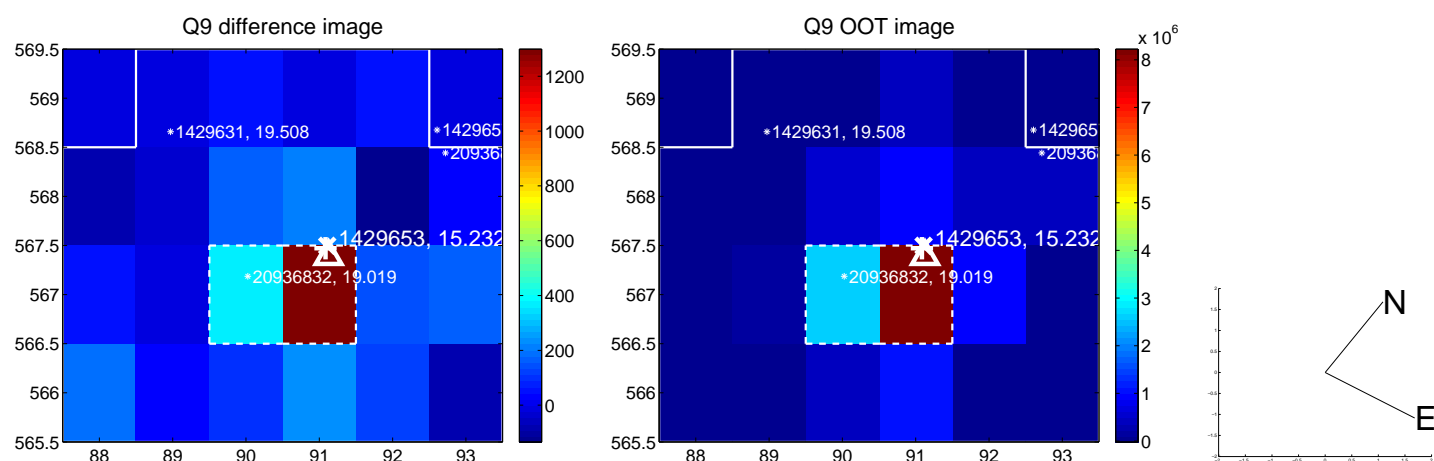
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



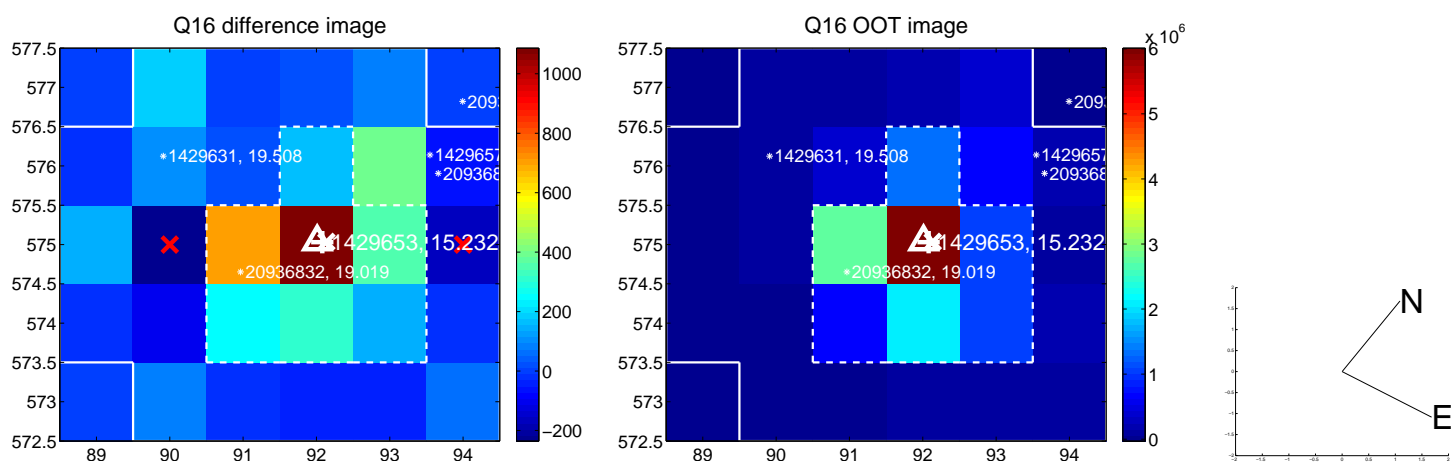
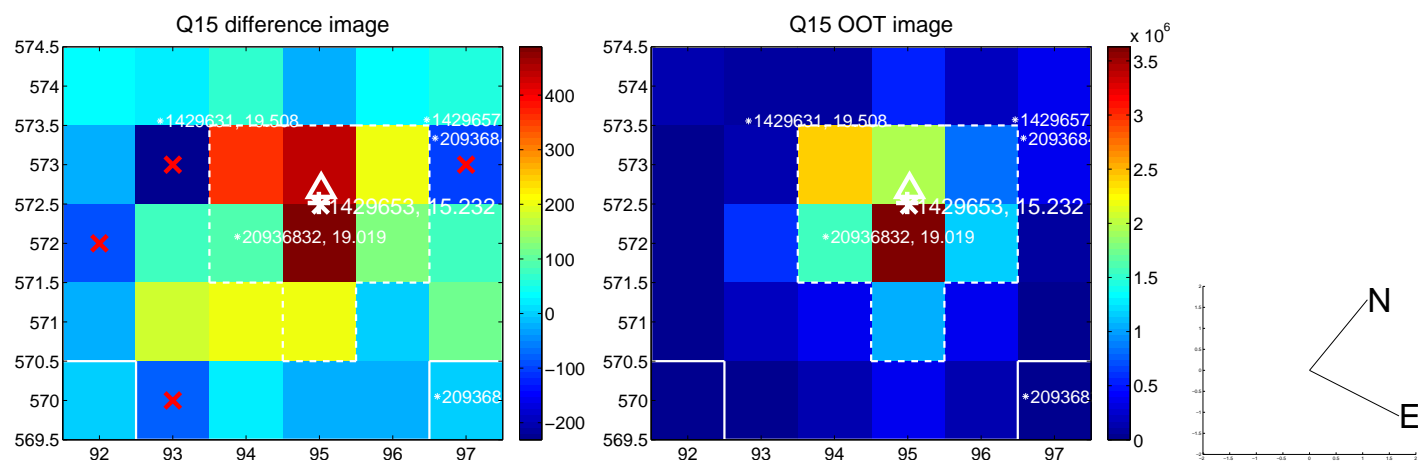
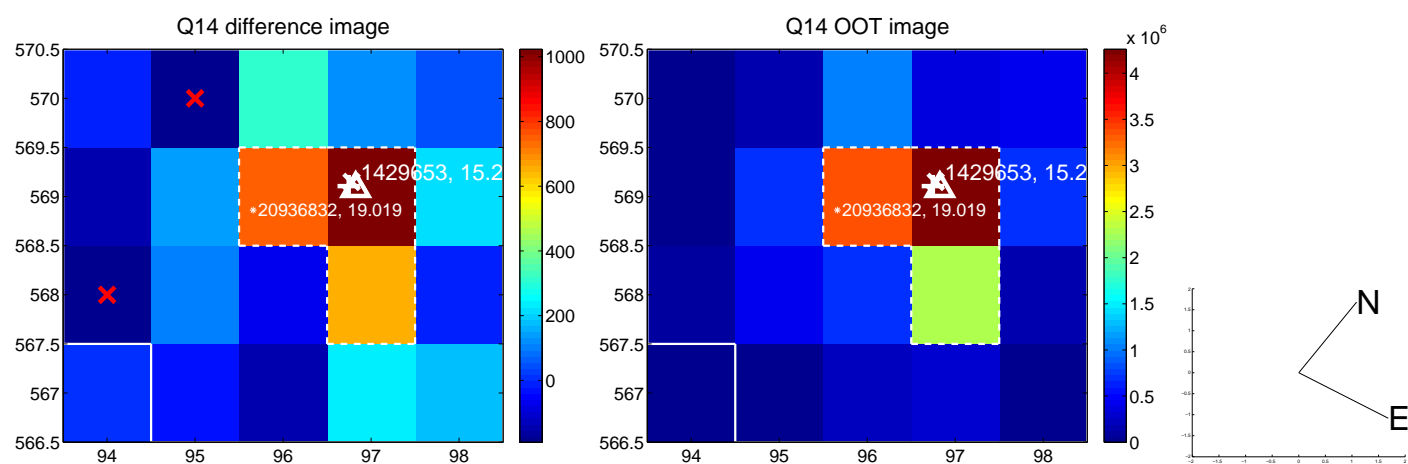
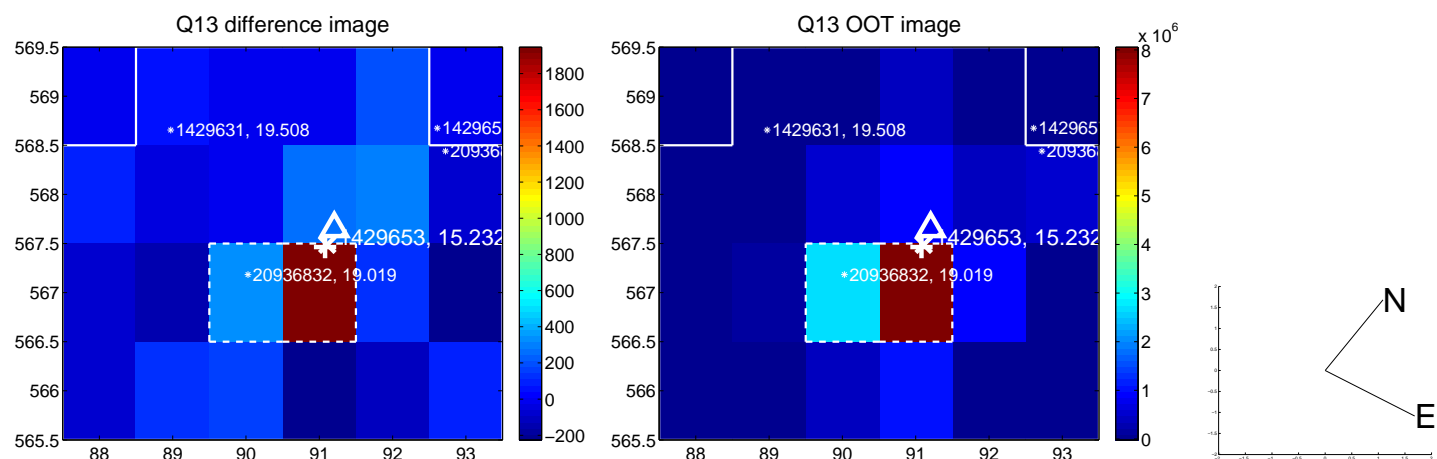
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



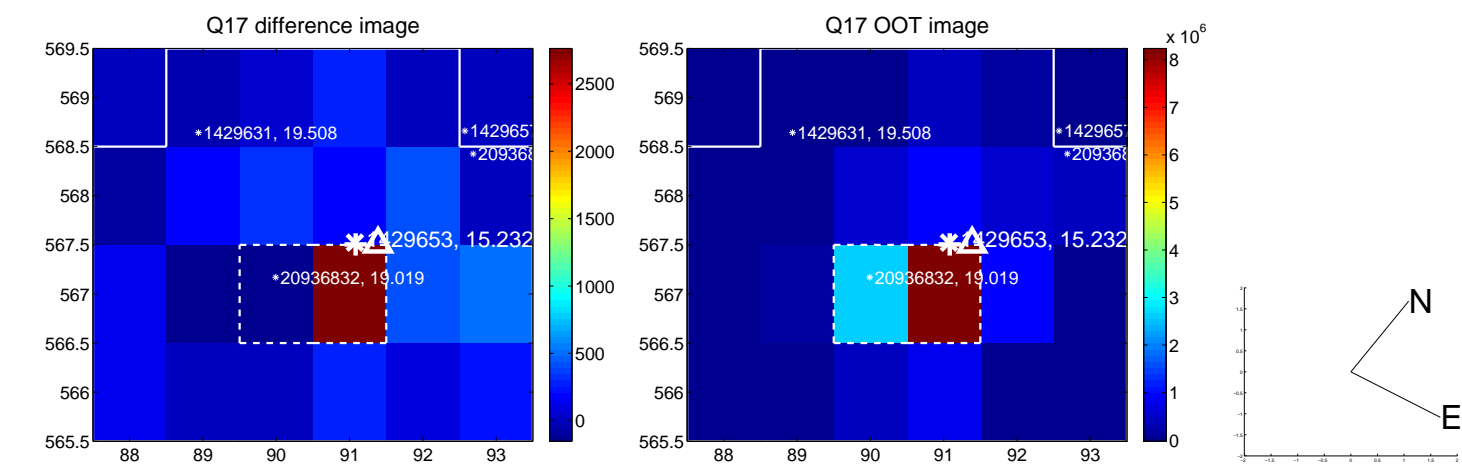
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



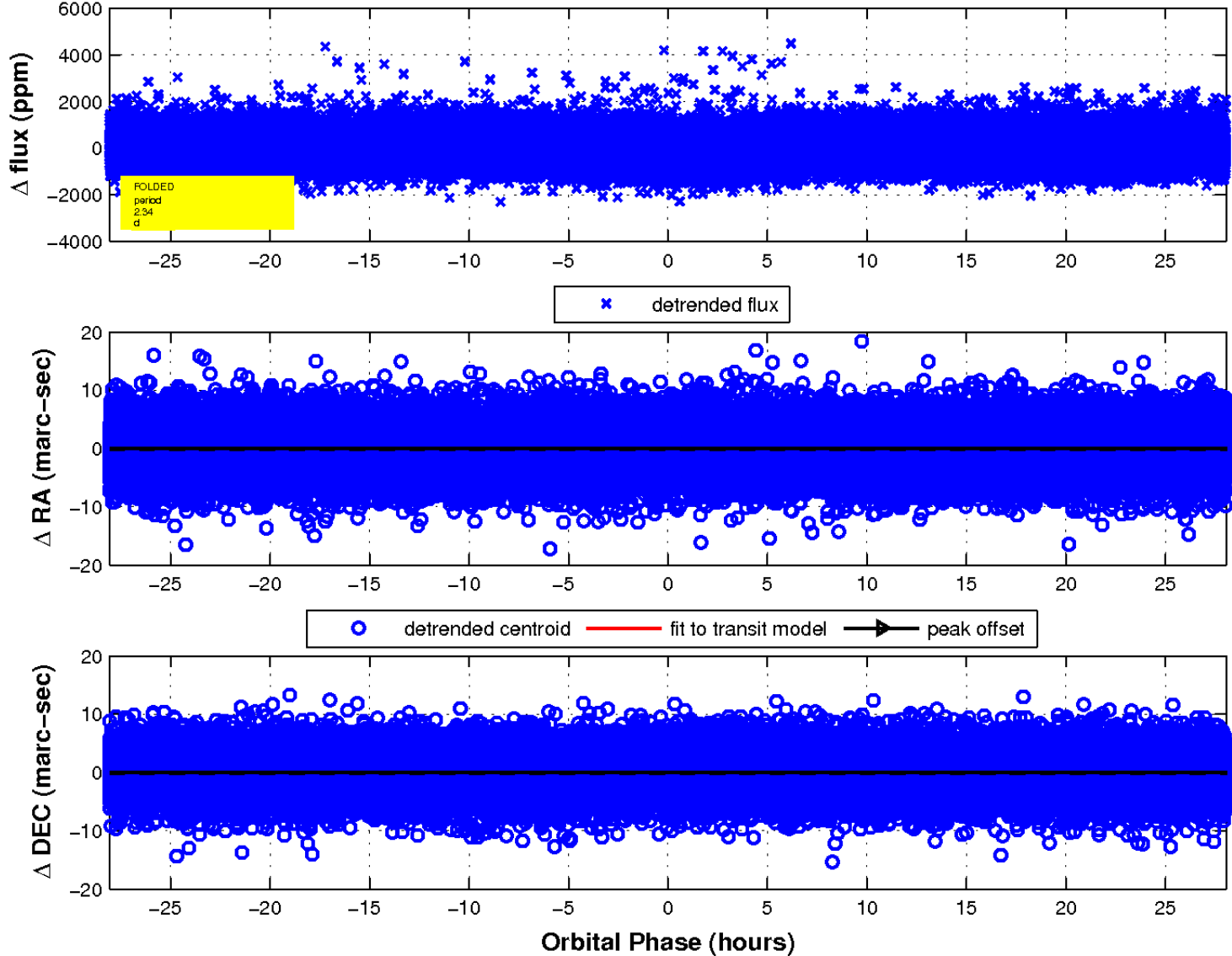
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

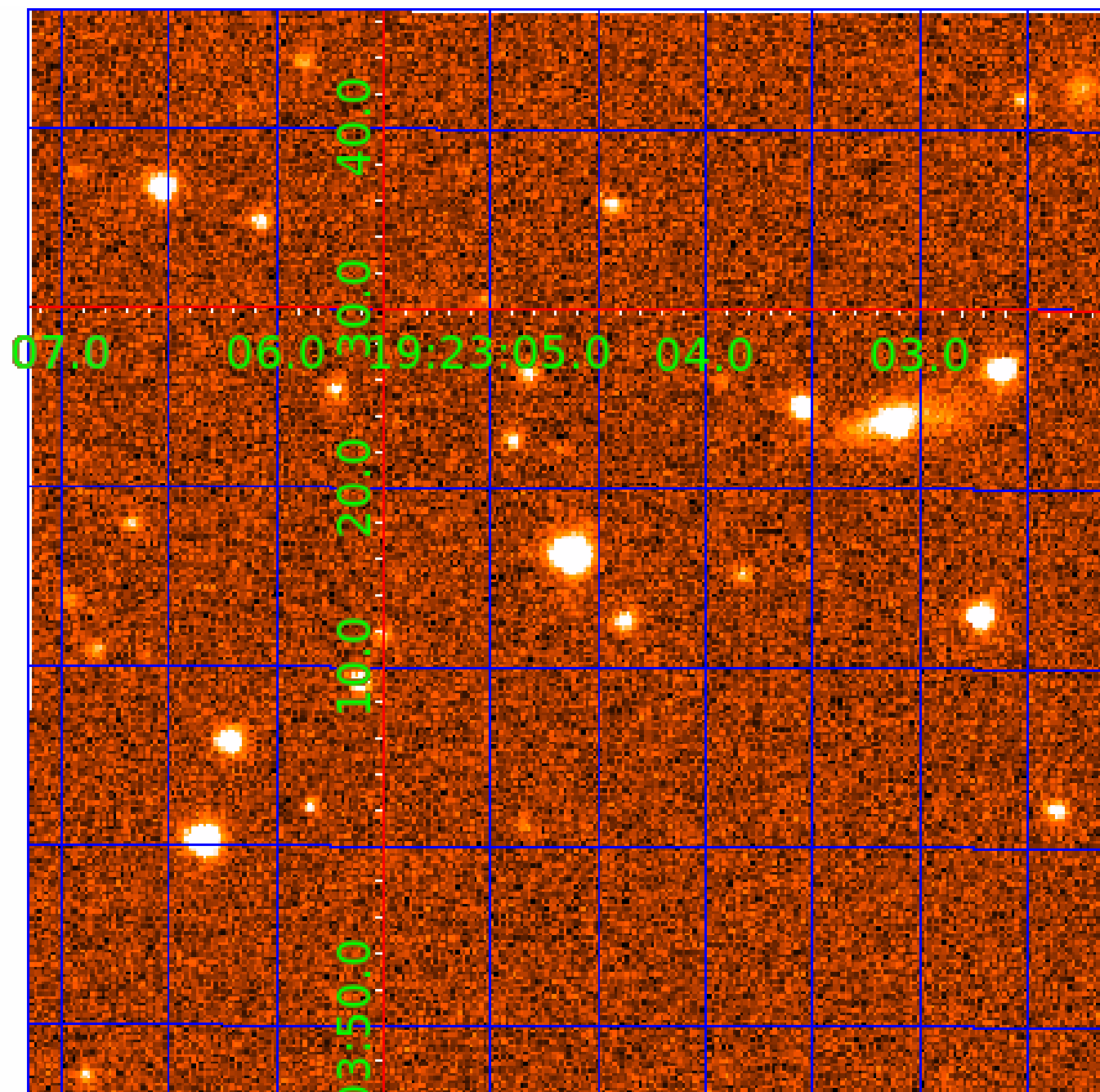


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 001429653

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
001429653-01	OBS	No	2.338292	133.073068	99.0	10.257	14.2	15.5	1.94	7106	2.25	5066.77
001429653-02	OBS	No	2.337901	132.578796	120.4	18.758	12.8	13.9	1.94	7106	2.86	5067.90

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001429653-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
001429653-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_UNRESOLVED_OFFSET

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

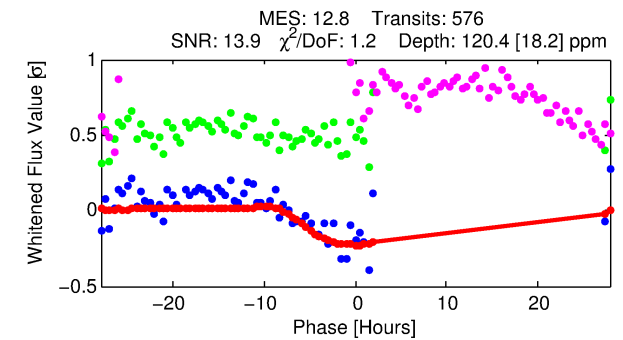
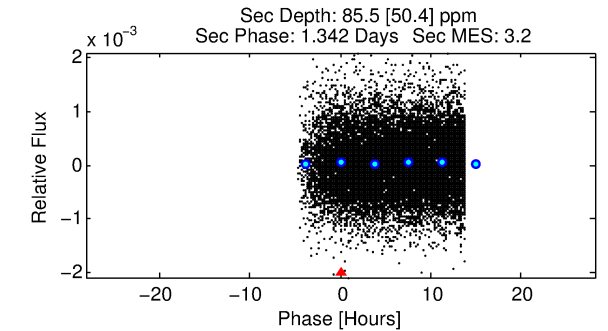
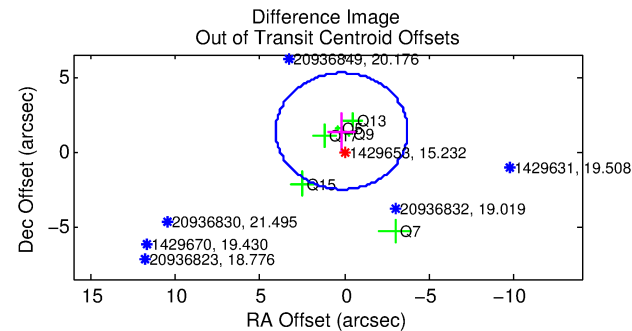
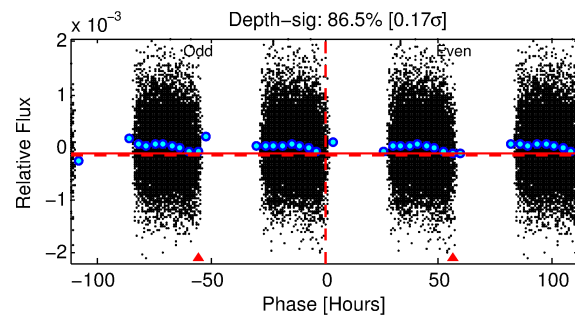
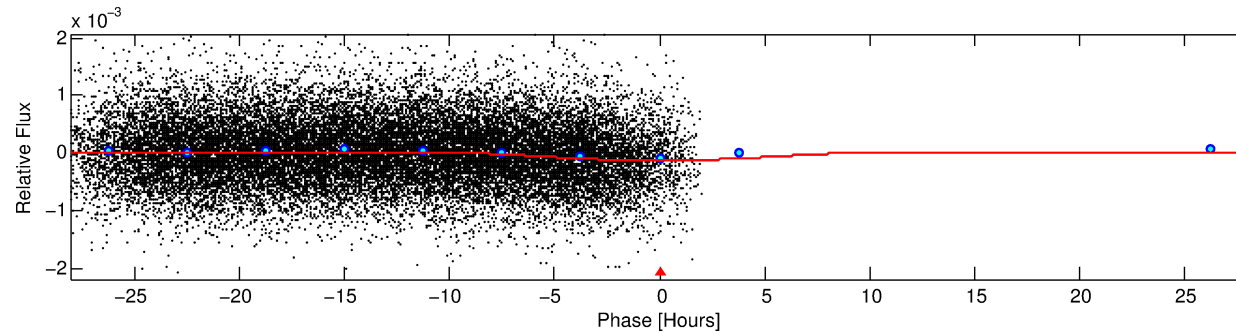
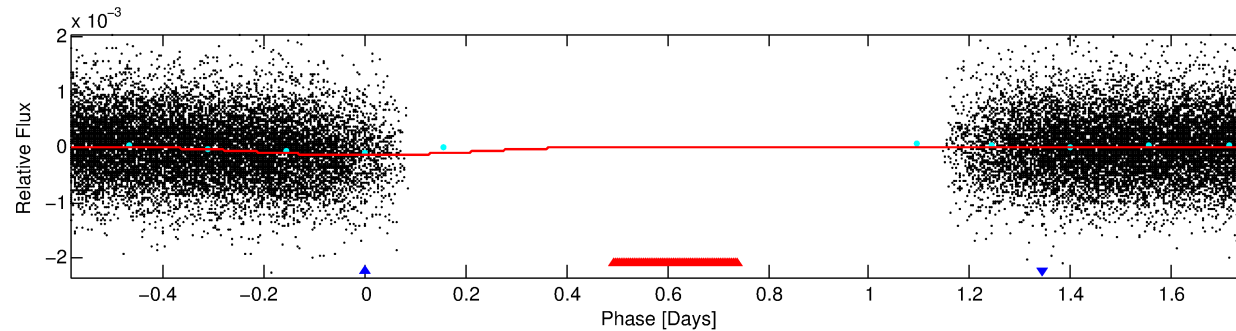
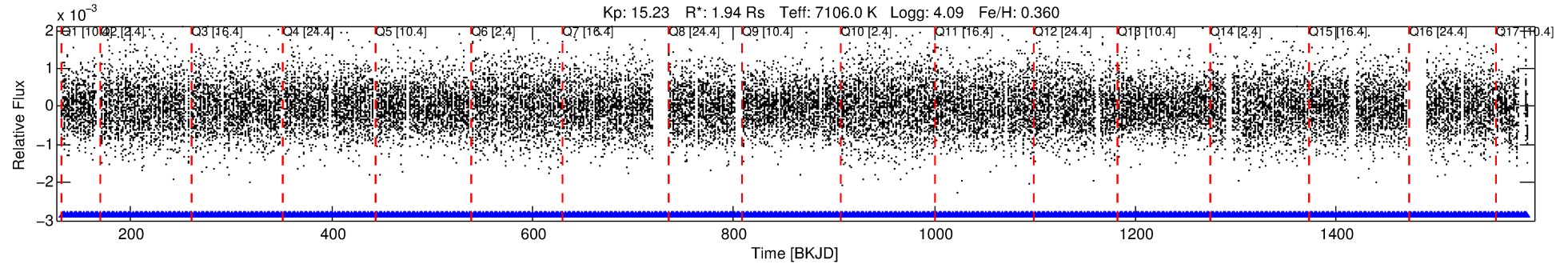
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 001429653-02

No Significant Match Found

DV One-Page Summary

KIC: 1429653 Candidate: 2 of 2 Period: 2.338 d



DV Fit Results:

Period = 2.33790 [0.00009] d
Epoch = 132.5788 [0.0825] BKJD
Rp/R* = 0.0135 [0.0014]
a/R* = 1.02 [0.01]
b = 0.99 [0.01]
Seff = 5067.90 [1148.31]
Teq = 2151 [122] K
Rp = 2.86 [0.60] Re
a = 0.0412 [0.0063] AU
Ag = 9.73 [6.45] [1.35 σ]
Teffp = 5875 [921] K [4.01 σ]

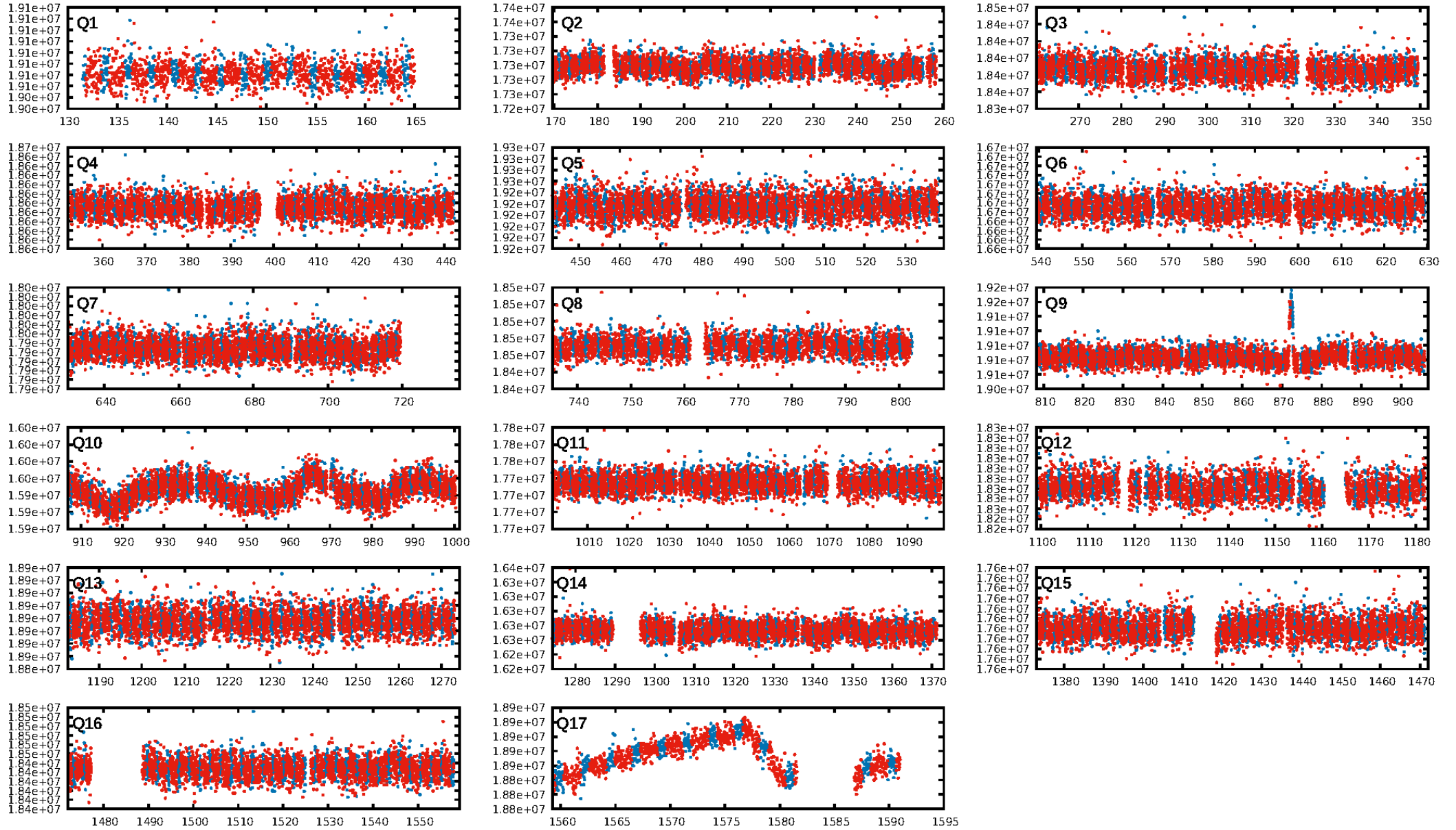
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [550/550]
GhostDiagnostic-chr: 1.458
Centroid-sig: 0.3%
Centroid-so: 2.529 arcsec [4.14 σ]
OotOffset-rm: 1.382 arcsec [1.07 σ]
KicOffset-rm: 1.274 arcsec [1.16 σ]
OotOffset-st: 0/2/0/4 [6]
KicOffset-st: 0/2/0/4 [6]
DiffImageQuality-fgm: 0.50 [3/6]
DiffImageOverlap-fno: 0.00 [0/17]

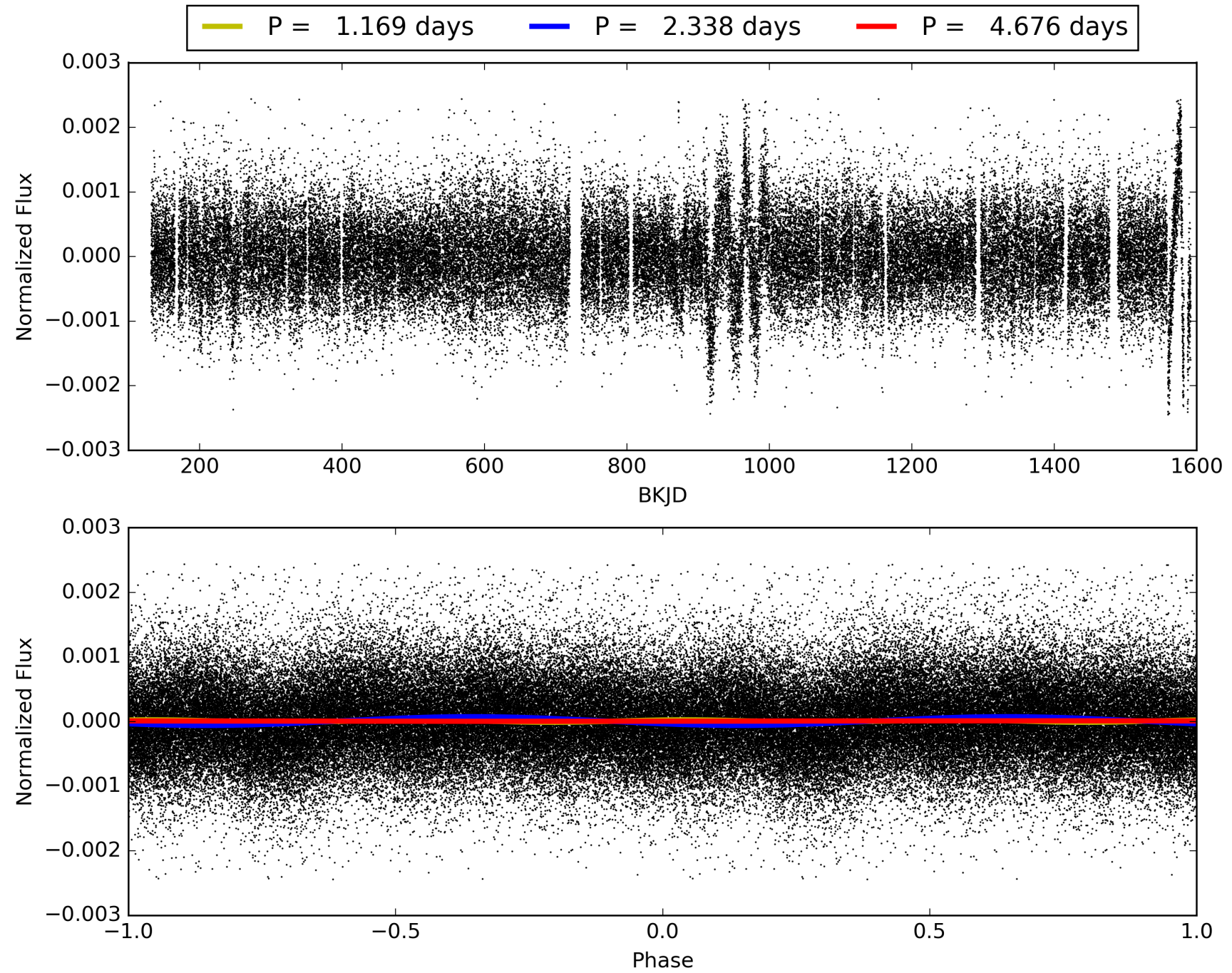
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 20:40:25 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 001429653-02, PDC Light Curves

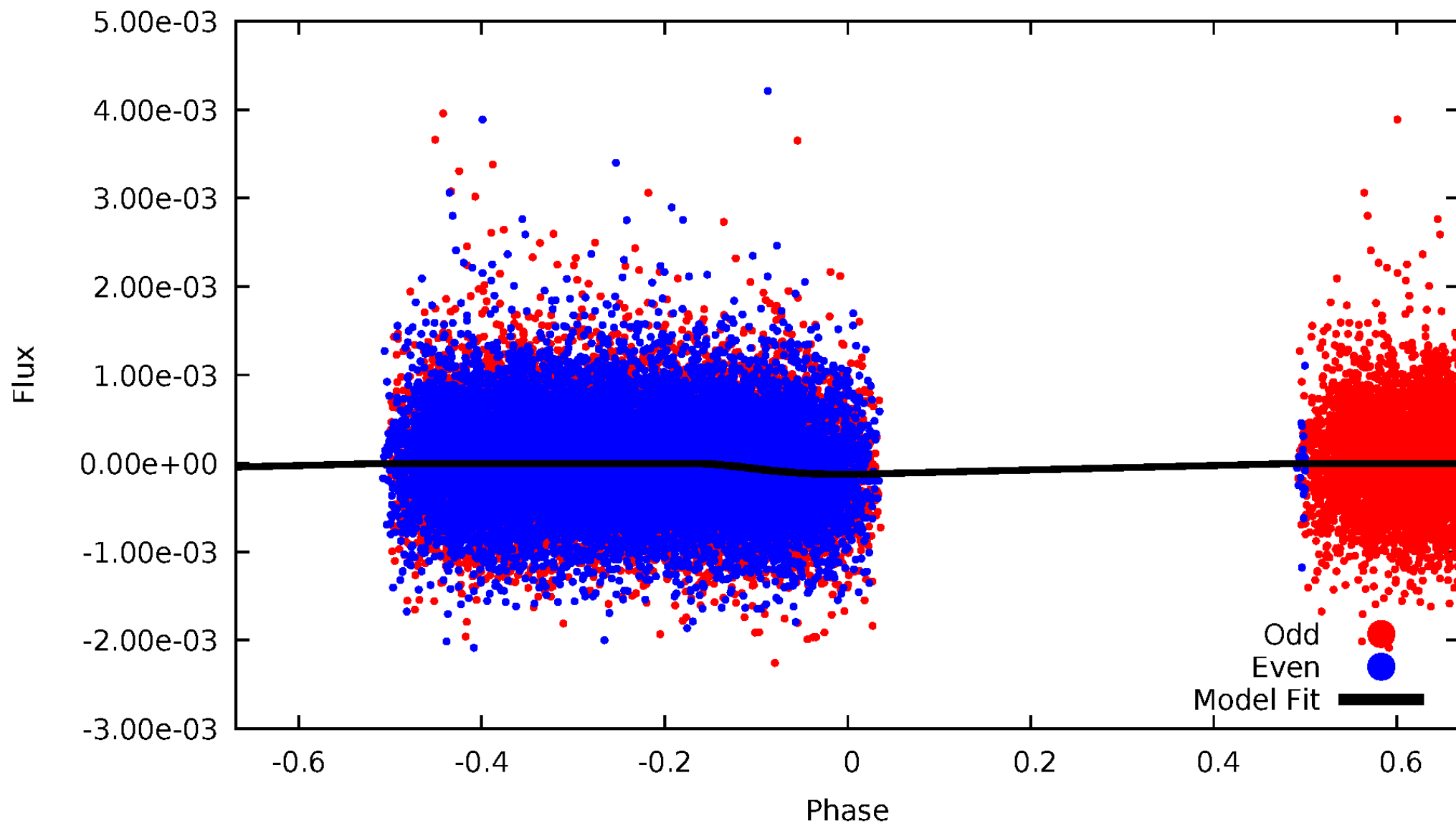


TCE 001429653-02



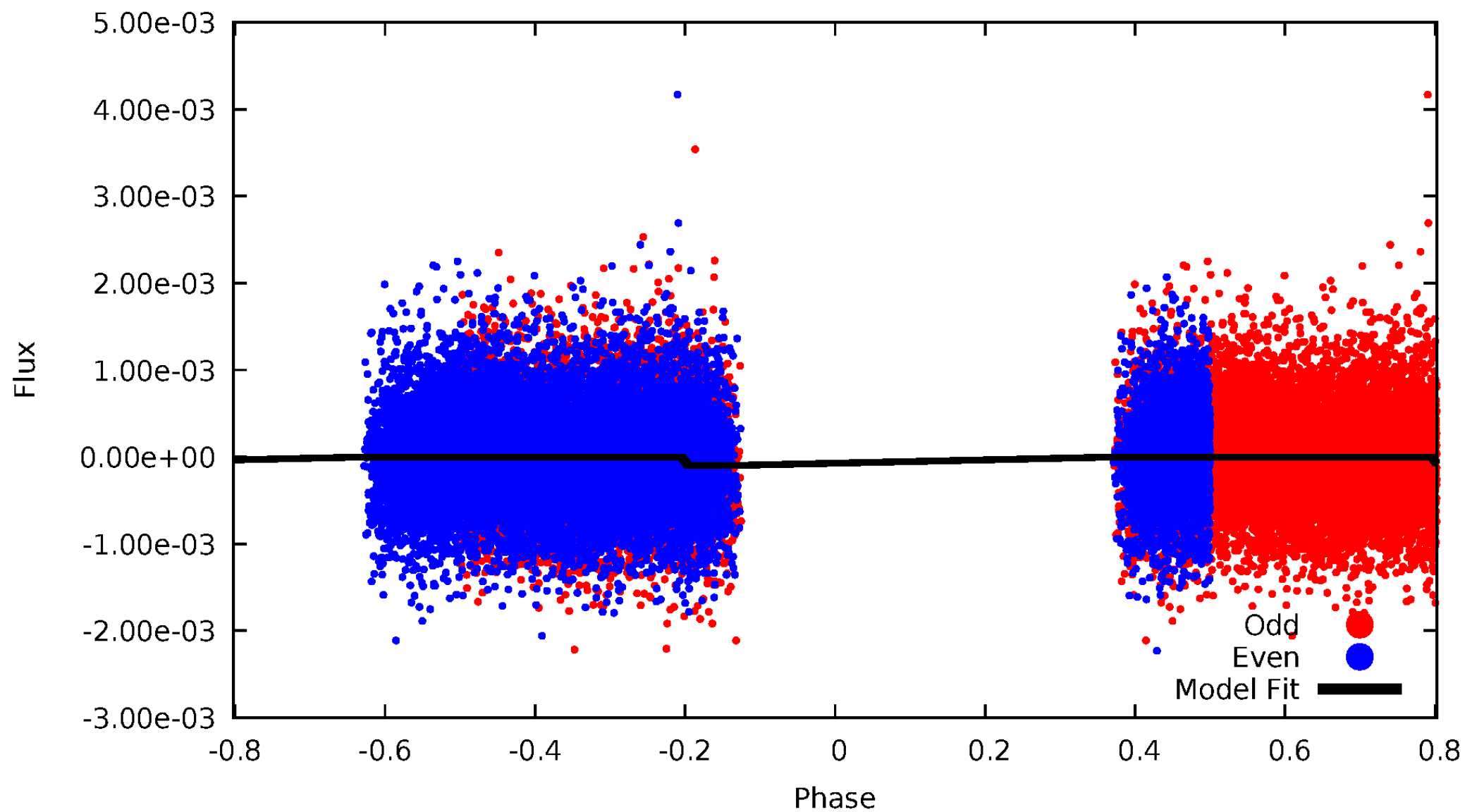
DV Odd/Even

TCE 001429653-02



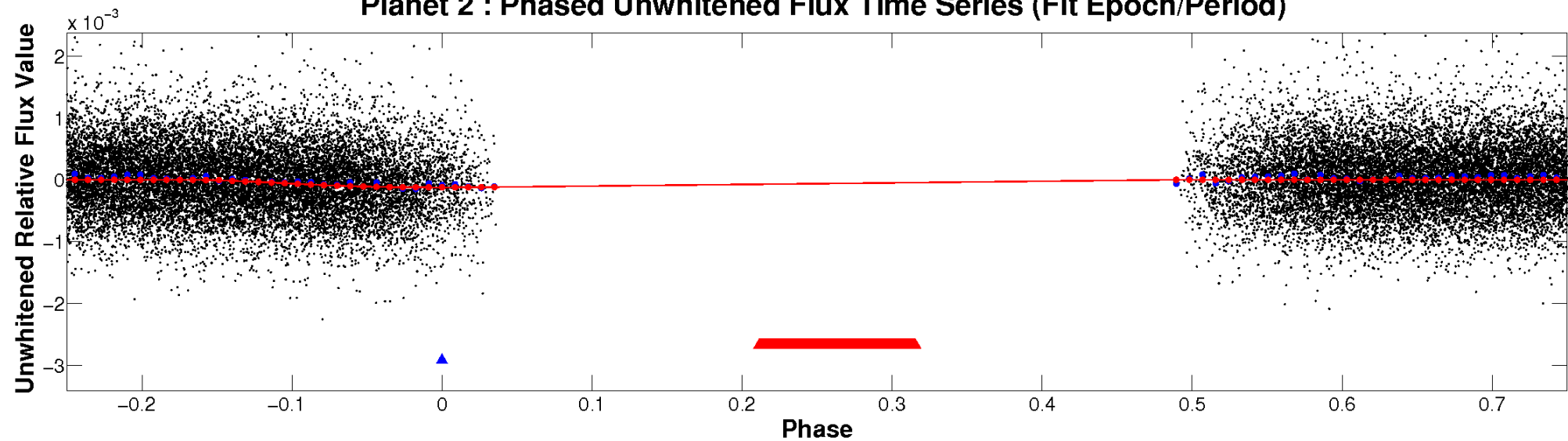
ALT Odd/Even

TCE 001429653-02

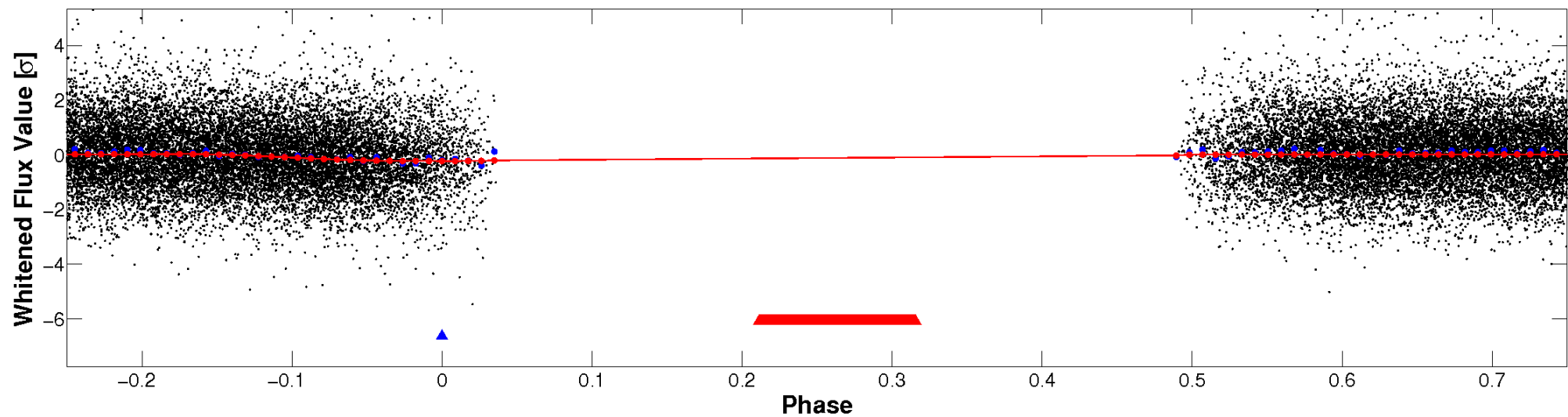


Non-Whitened Vs. Whitened Light Curve

Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

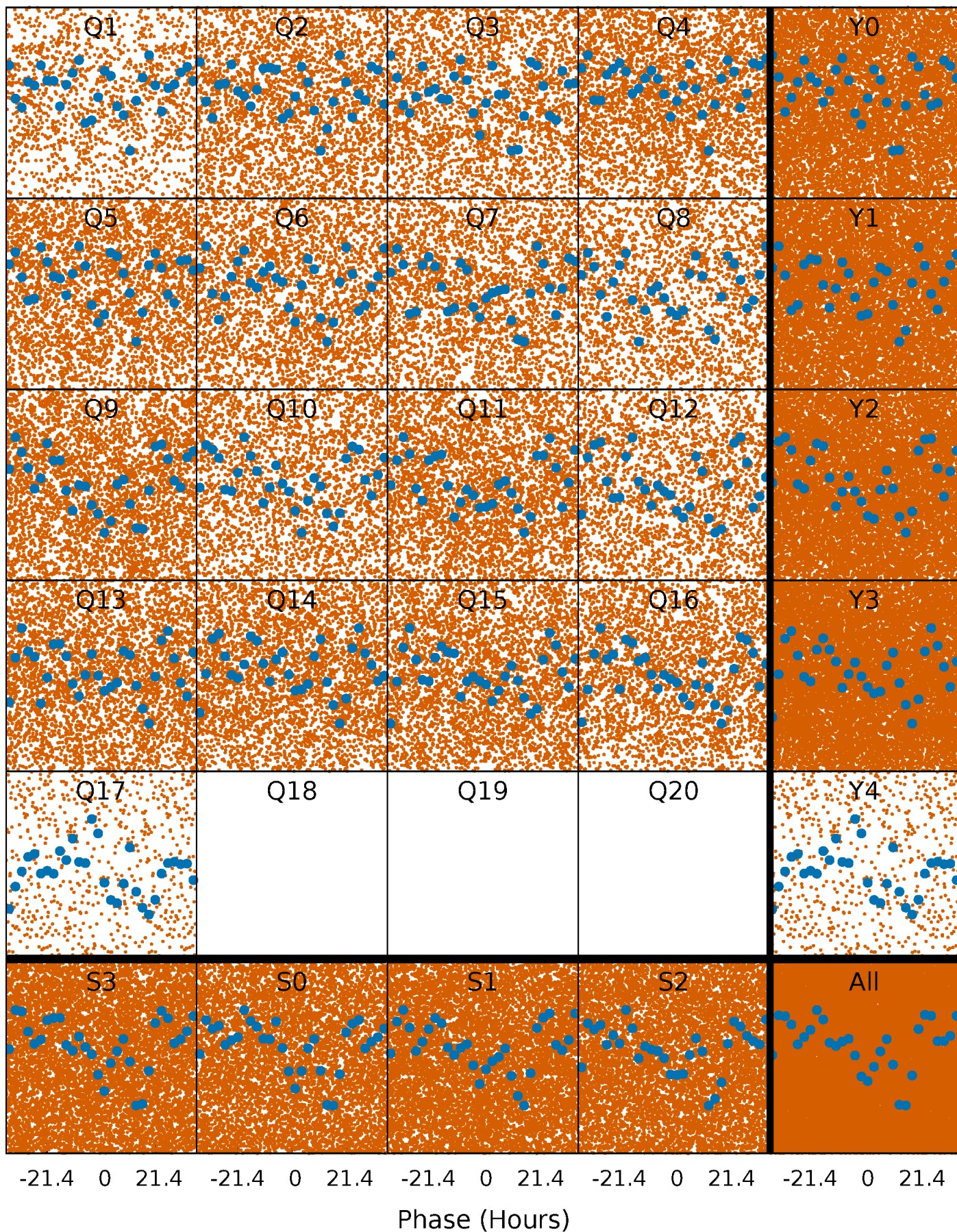


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



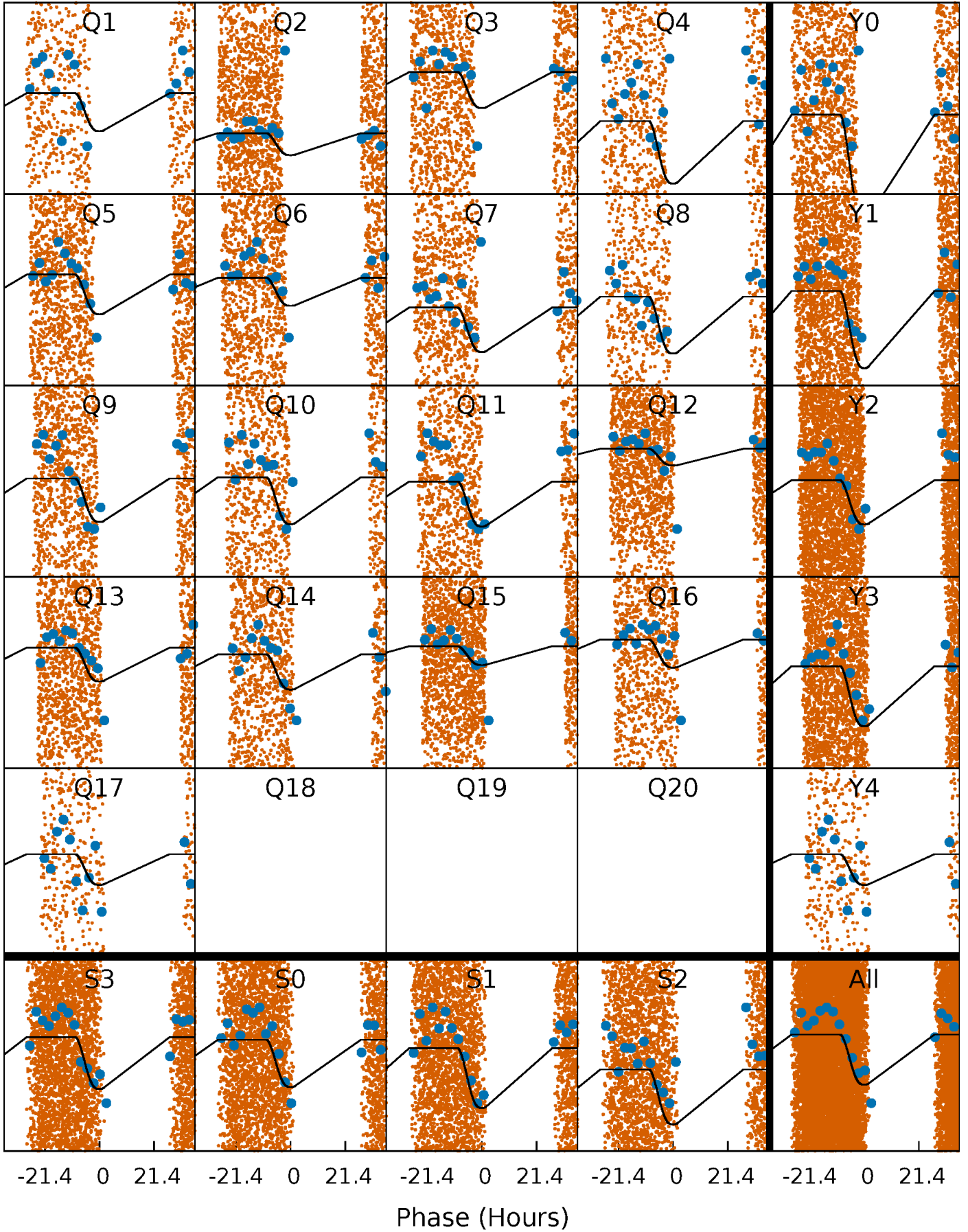
PDC Quarter-Phased Transit Curves

TCE 001429653-02 P= 2.337901 Days $T_0=132.578796$ (BKJD)



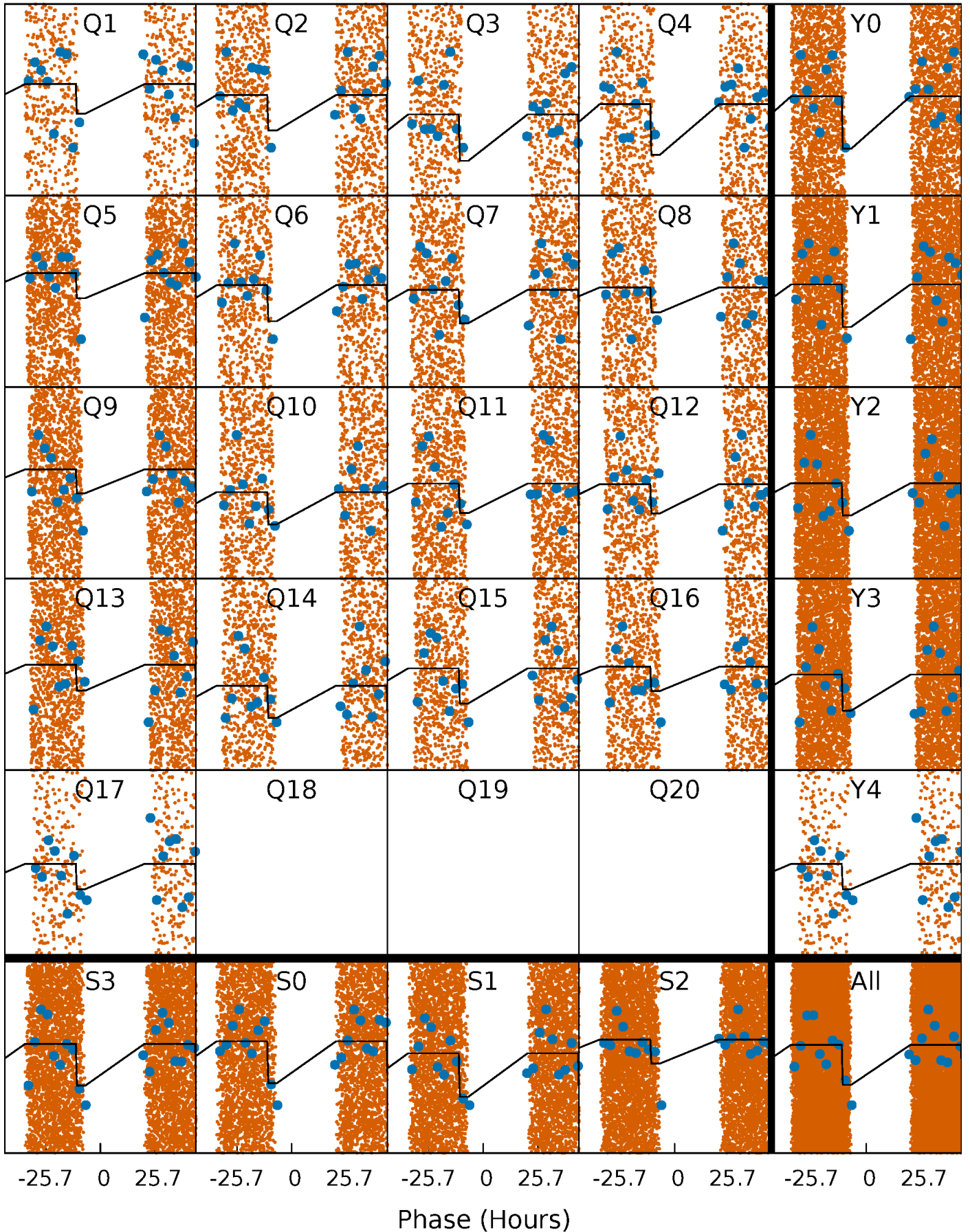
DV Quarter-Phased Transit Curves

TCE 001429653-02 P= 2.337901 Days $T_0=132.578796$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

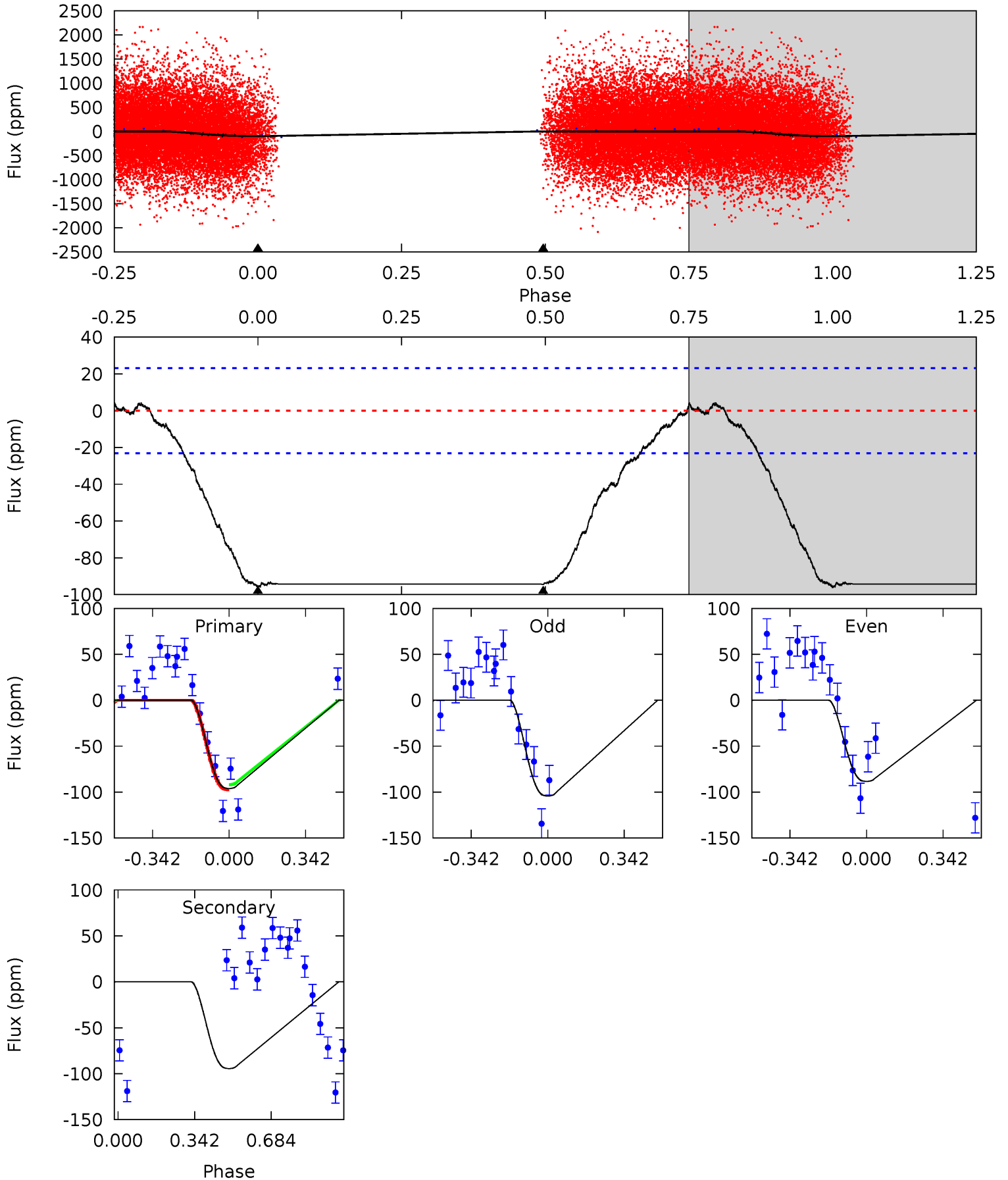
TCE 001429653-02 P= 2.338059 Days $T_0=132.857930$ (BKJD)



DV Model-Shift Uniqueness Test

001429653-02, P = 2.337901 Days, E = 130.240895 Days

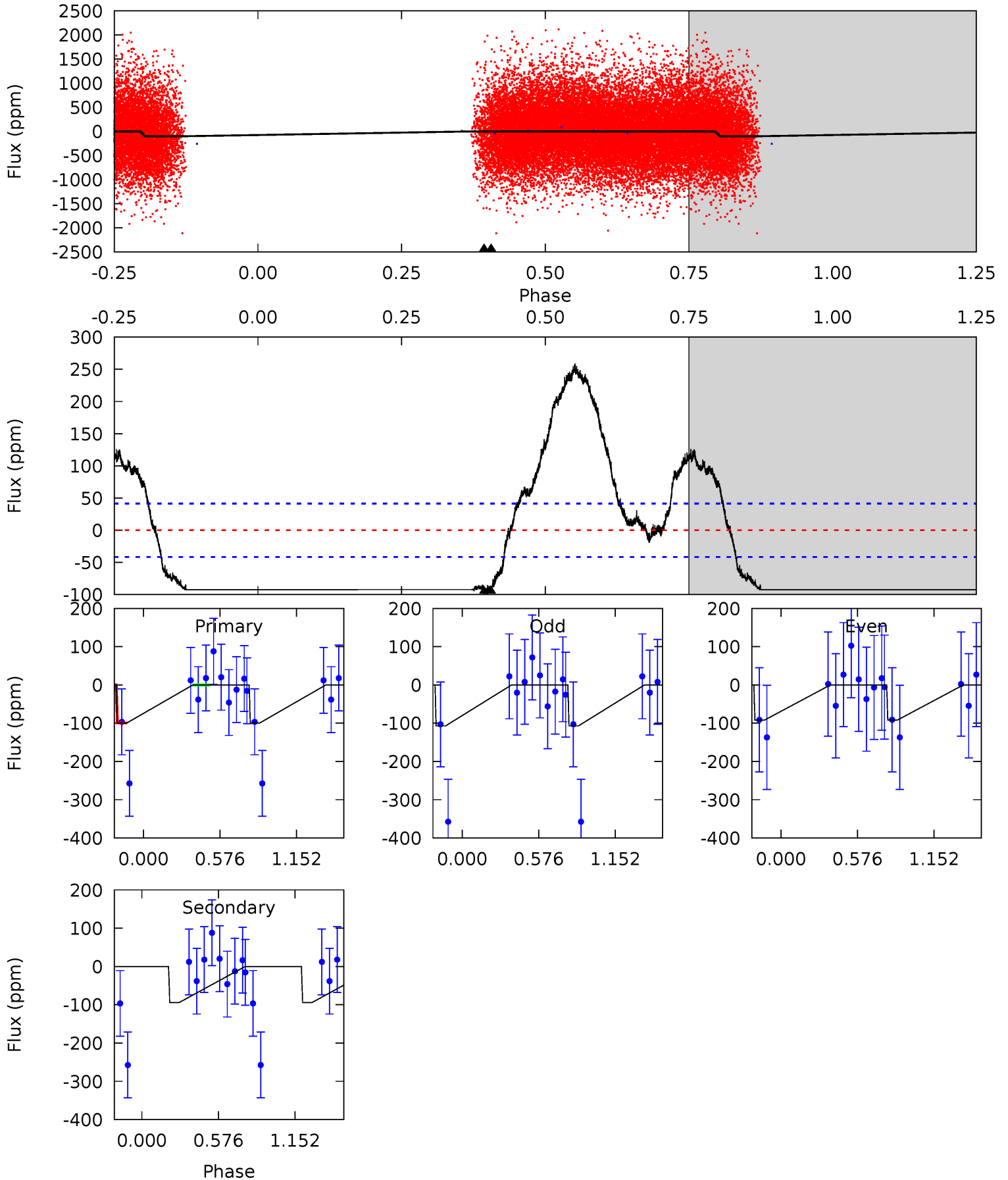
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.9	17.6	0	0	4.30	0.95	0.39	17.9	17.9	17.6	17.6	1.50	0.71	0.04	0.22



Alt Model-Shift Uniqueness Test

001429653-02, P = 2.338059 Days, E = 130.519871 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.0	9.47	0	0	4.18	0.56	5.35	10.0	10.0	9.47	9.47	0.75	0	0.72	0



Stellar Parameters For KIC 001429653

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7106^{+63}_{-95}	$4.094^{+0.080}_{-0.120}$	$0.360^{+0.100}_{-0.200}$	$1.940^{+0.351}_{-0.216}$	$1.707^{+0.118}_{-0.118}$	$0.329^{+0.116}_{-0.120}$
	+1%/-1%	+2%/-3%	+28%/-56%	+18%/-11%	+7%/-7%	+35%/-36%
Source	SPE68	SPE68	SPE68	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 001429653-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-94 ± 5	$2.89^{+0.39}_{-0.35}$	3012^{+127}_{-102}	5926^{+354}_{-288}	11^{+3}_{-2}
Alt.	-94 ± 10	$2.09^{+0.36}_{-0.33}$	3009^{+136}_{-99}	7029^{+697}_{-537}	20^{+8}_{-6}

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

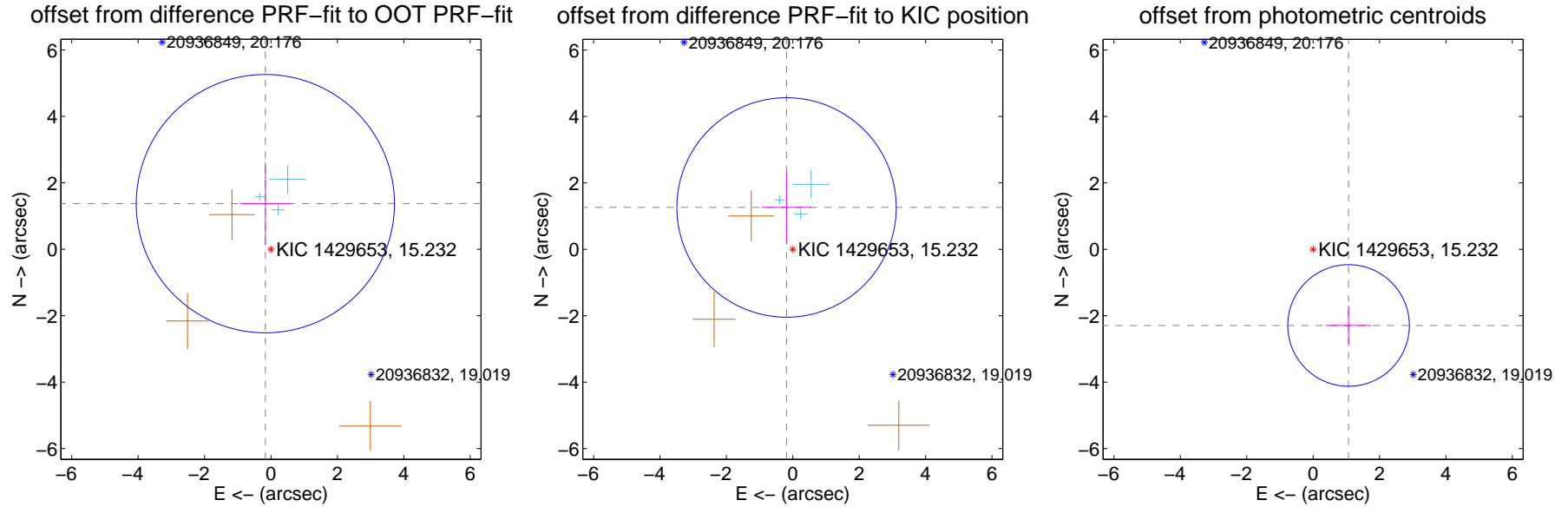
DV Centroid Data

Supplemental centroid analysis for 001429653-02. Kepler magnitude: 15.23. Transit SNR 13.86

There are 3 quarters with good PRF difference image offsets

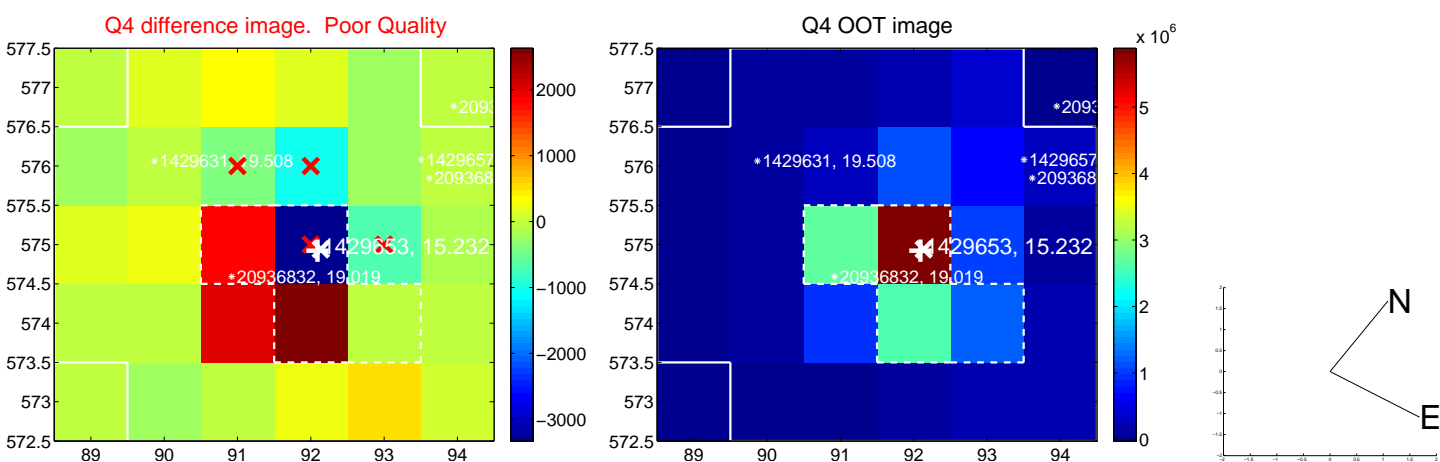
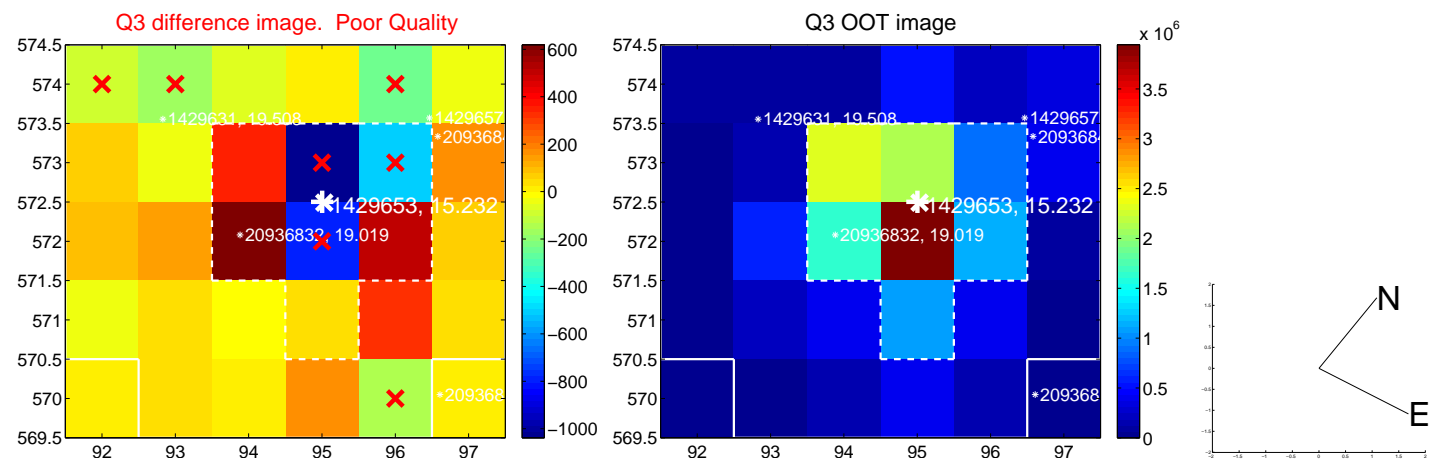
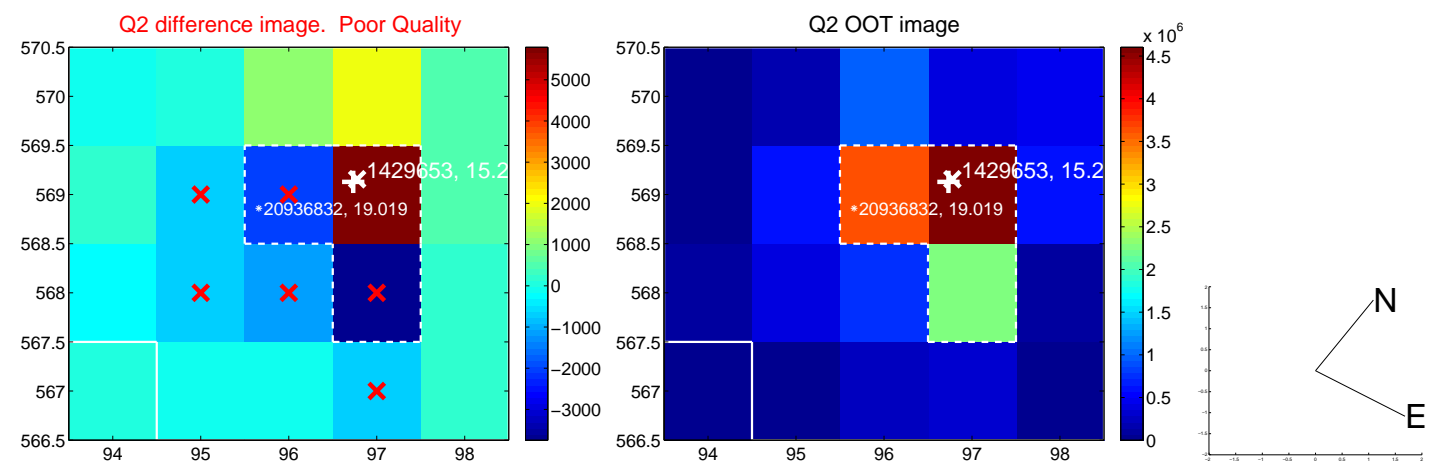
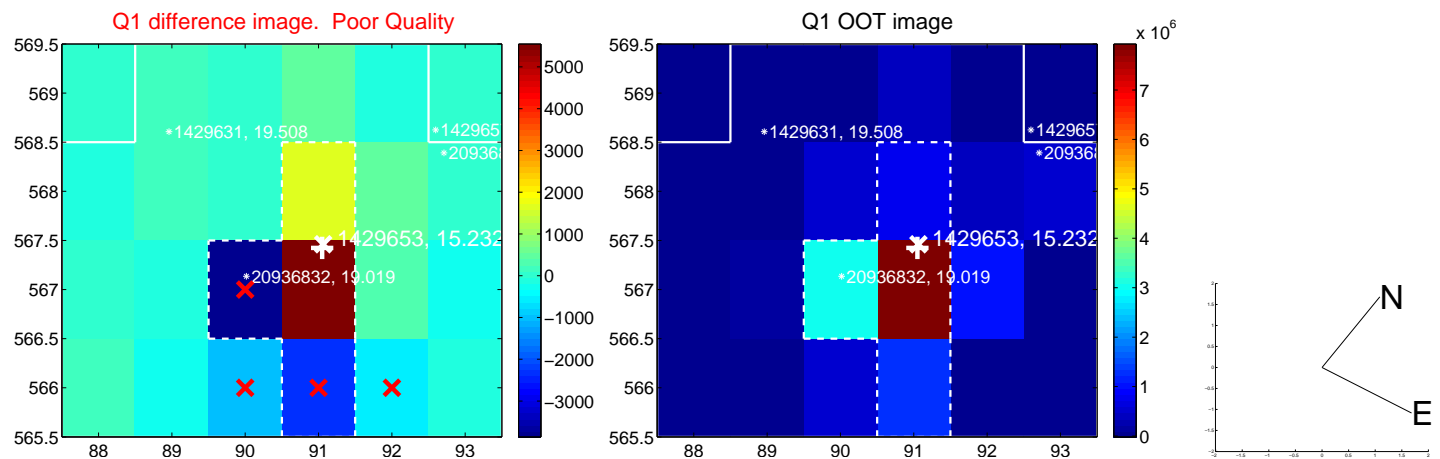
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.382 ± 1.296	1.07	0.169 ± 0.760	1.372 ± 1.252
PRF-fit source offset from KIC position	1.274 ± 1.101	1.16	0.189 ± 0.744	1.260 ± 1.066
photometric centroid source offset	2.53 ± 0.61	4.14	-1.07 ± 0.68	-2.29 ± 0.59

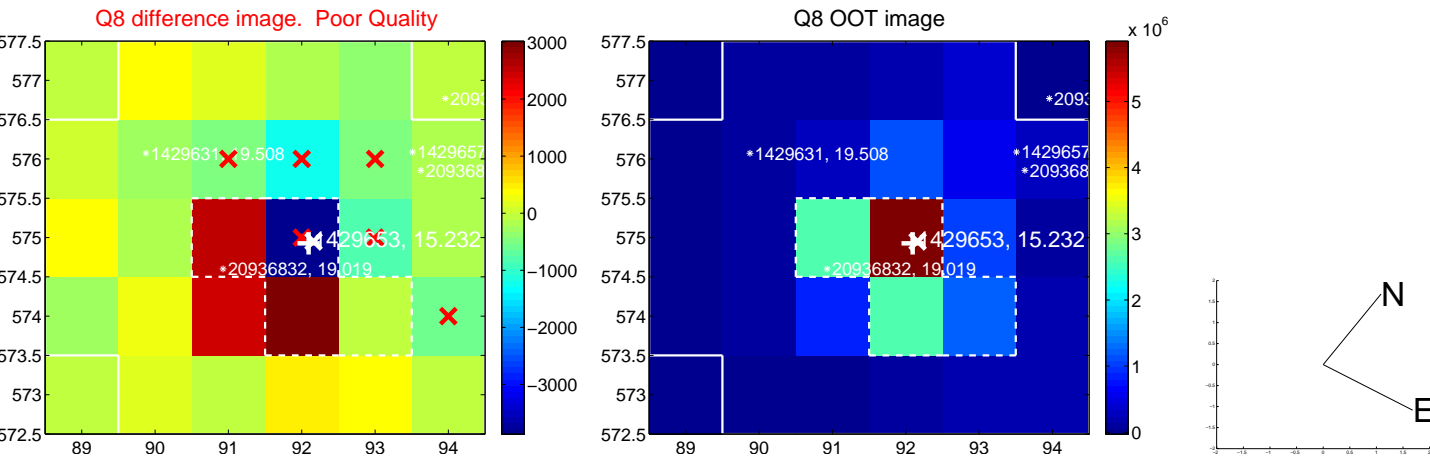
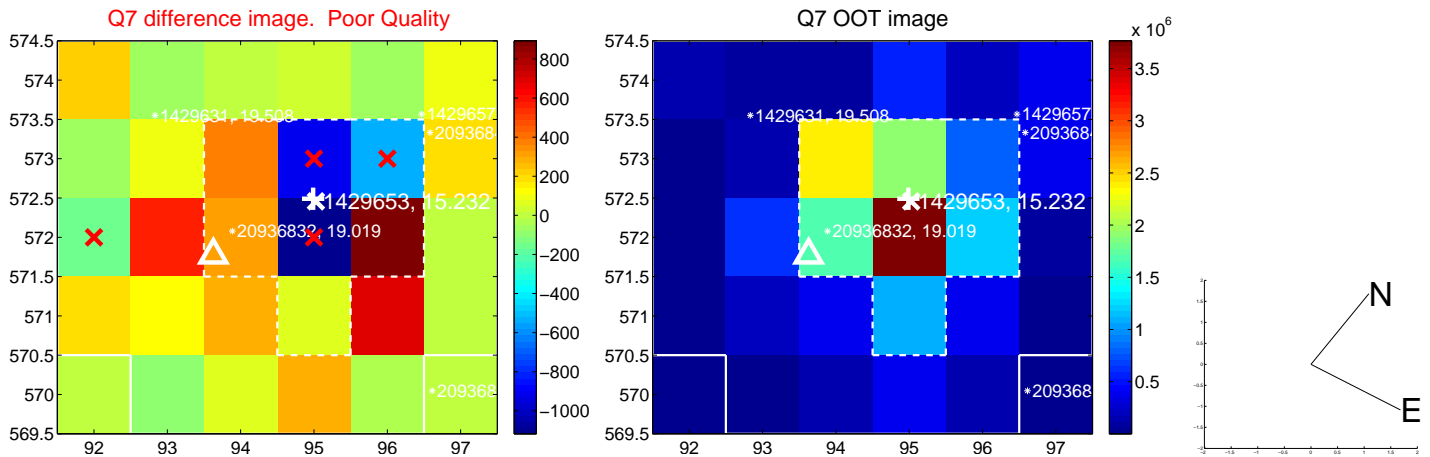
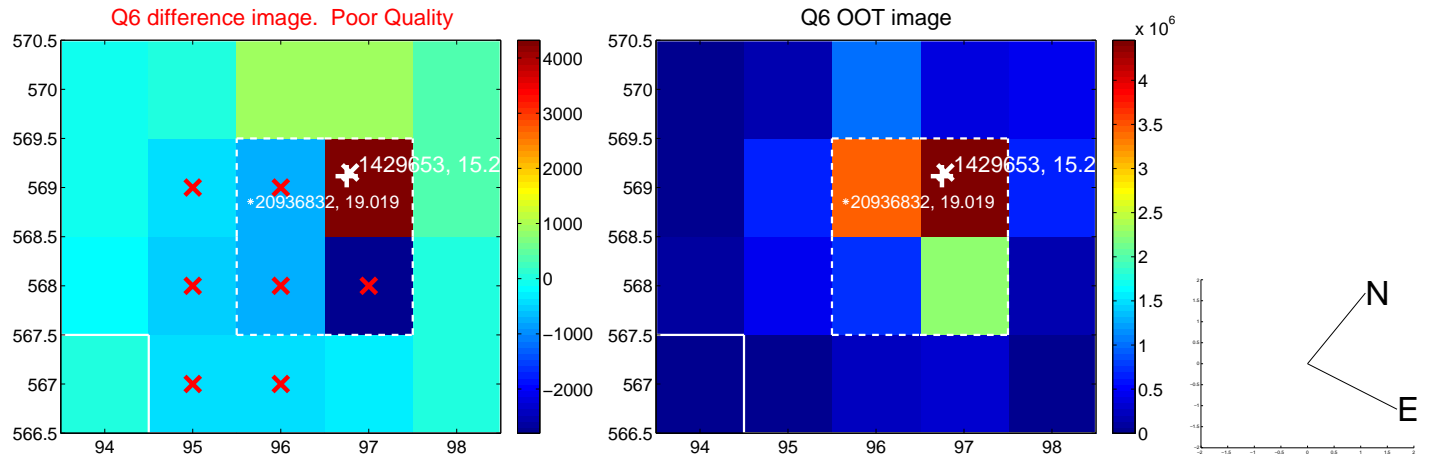
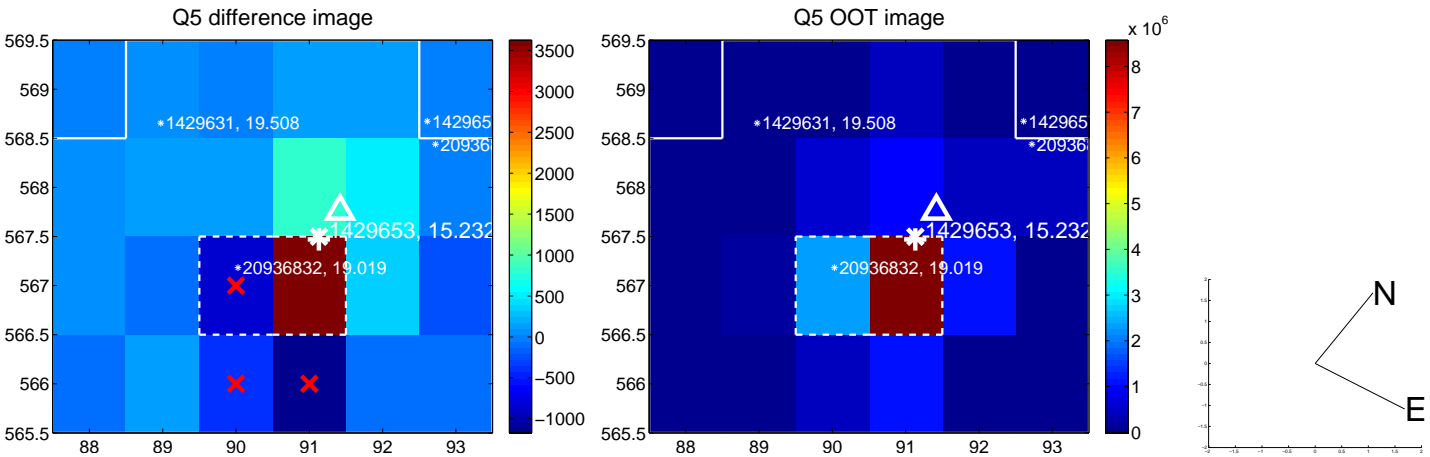


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

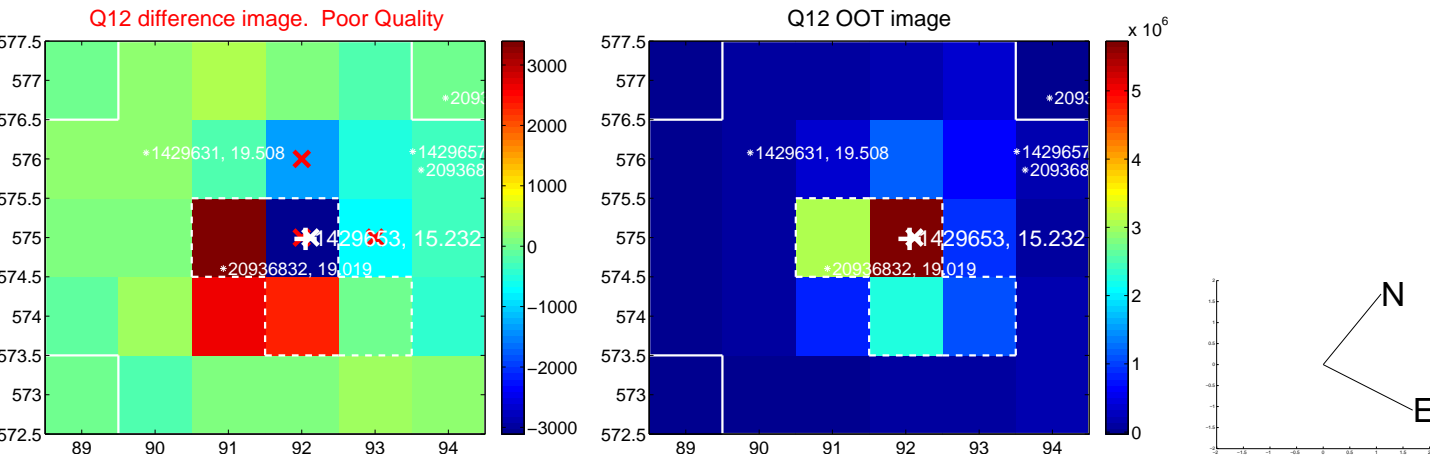
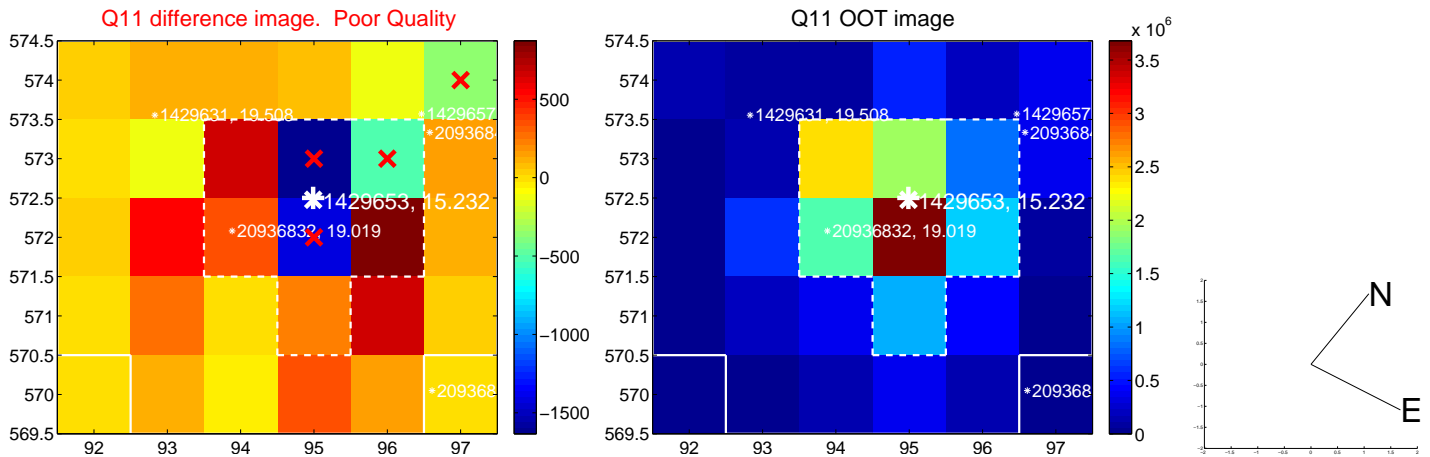
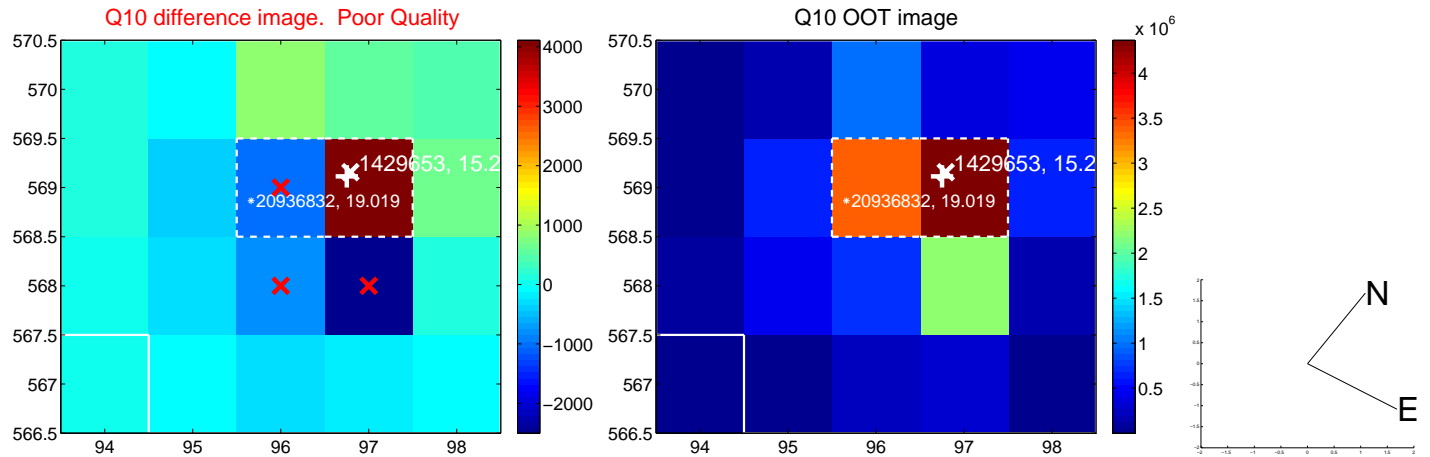
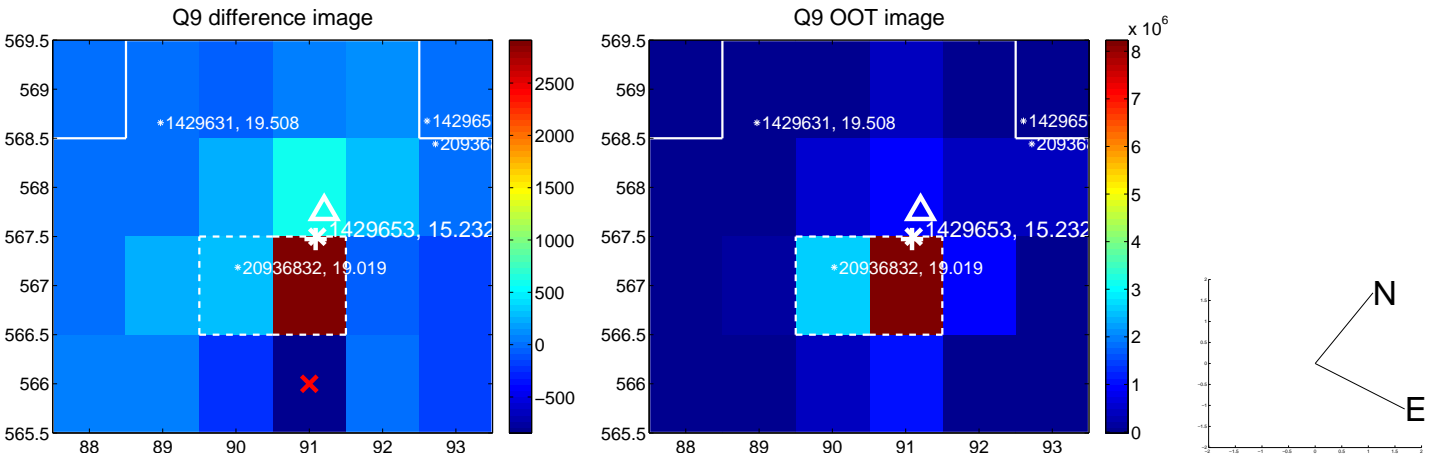
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



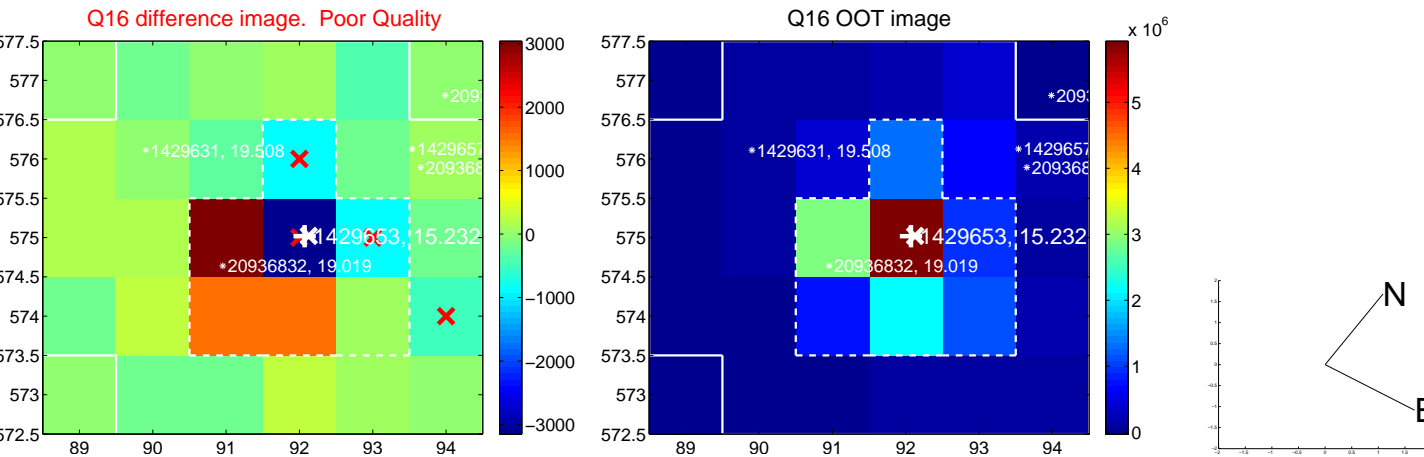
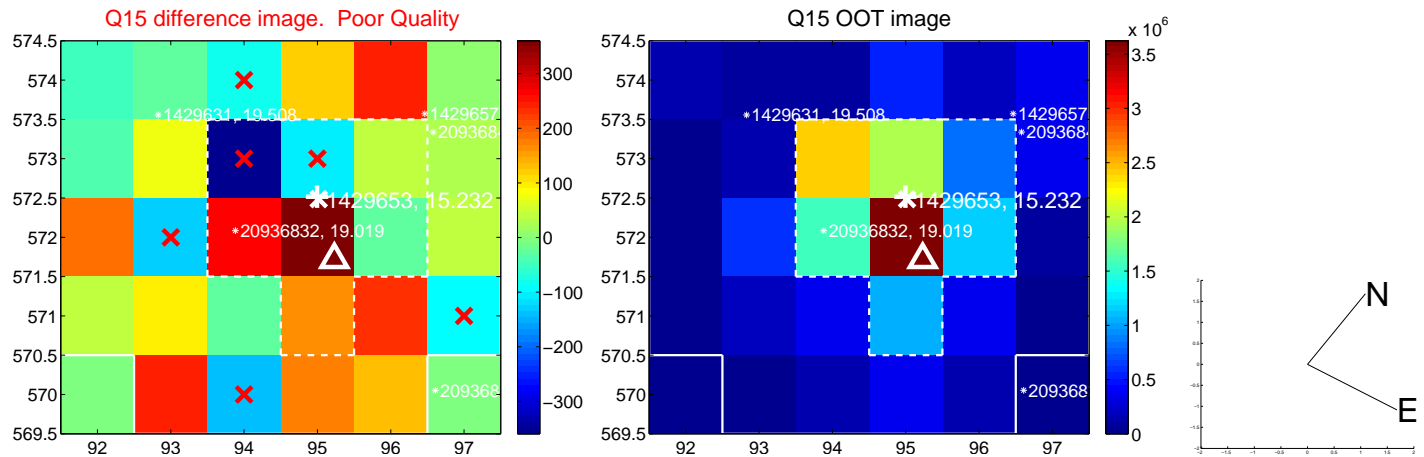
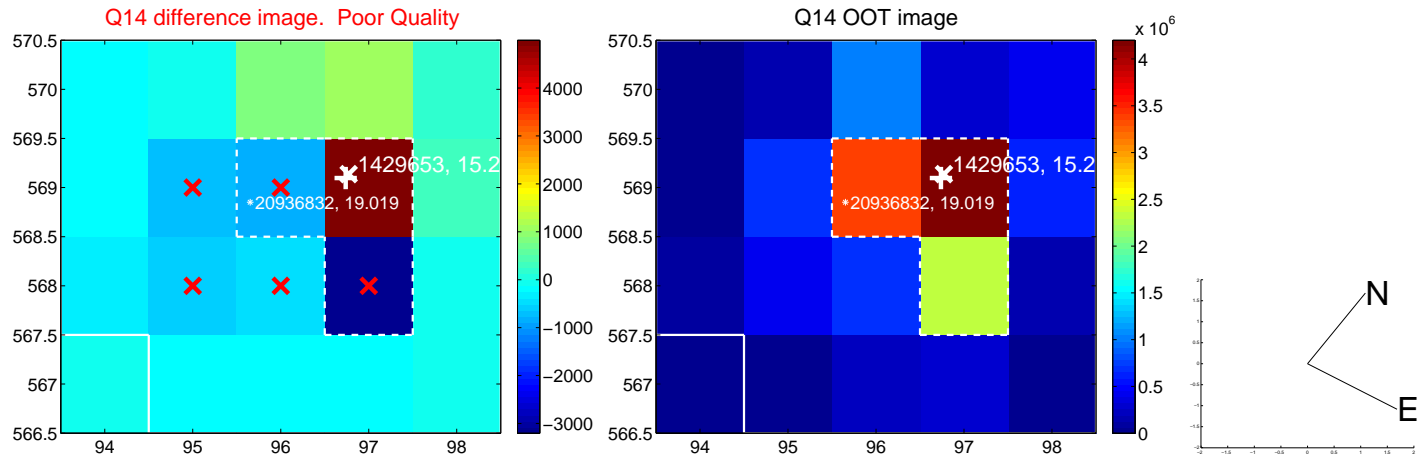
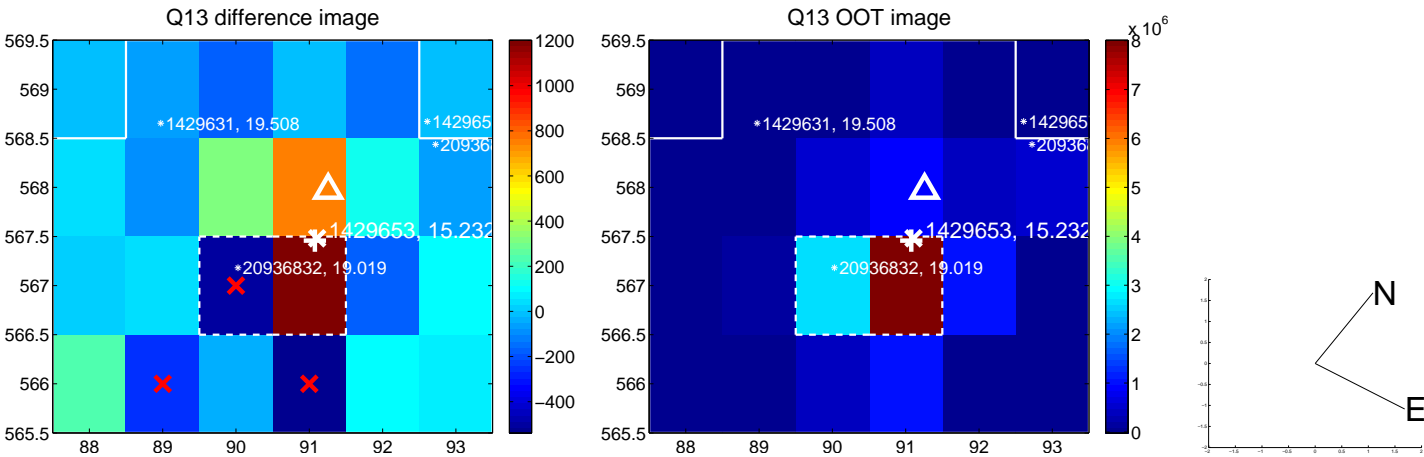
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



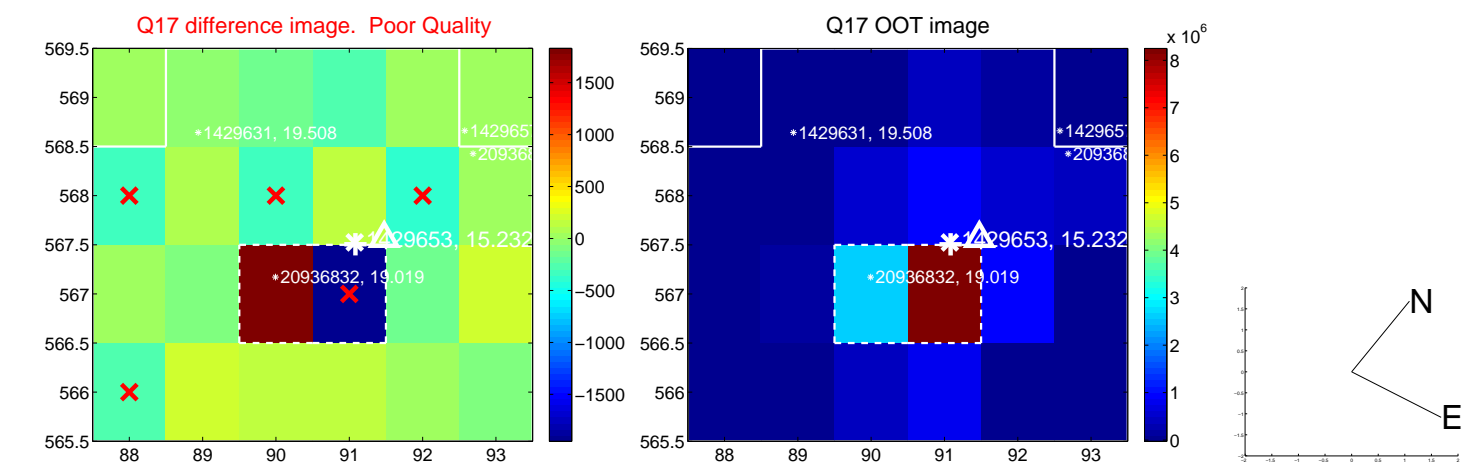
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



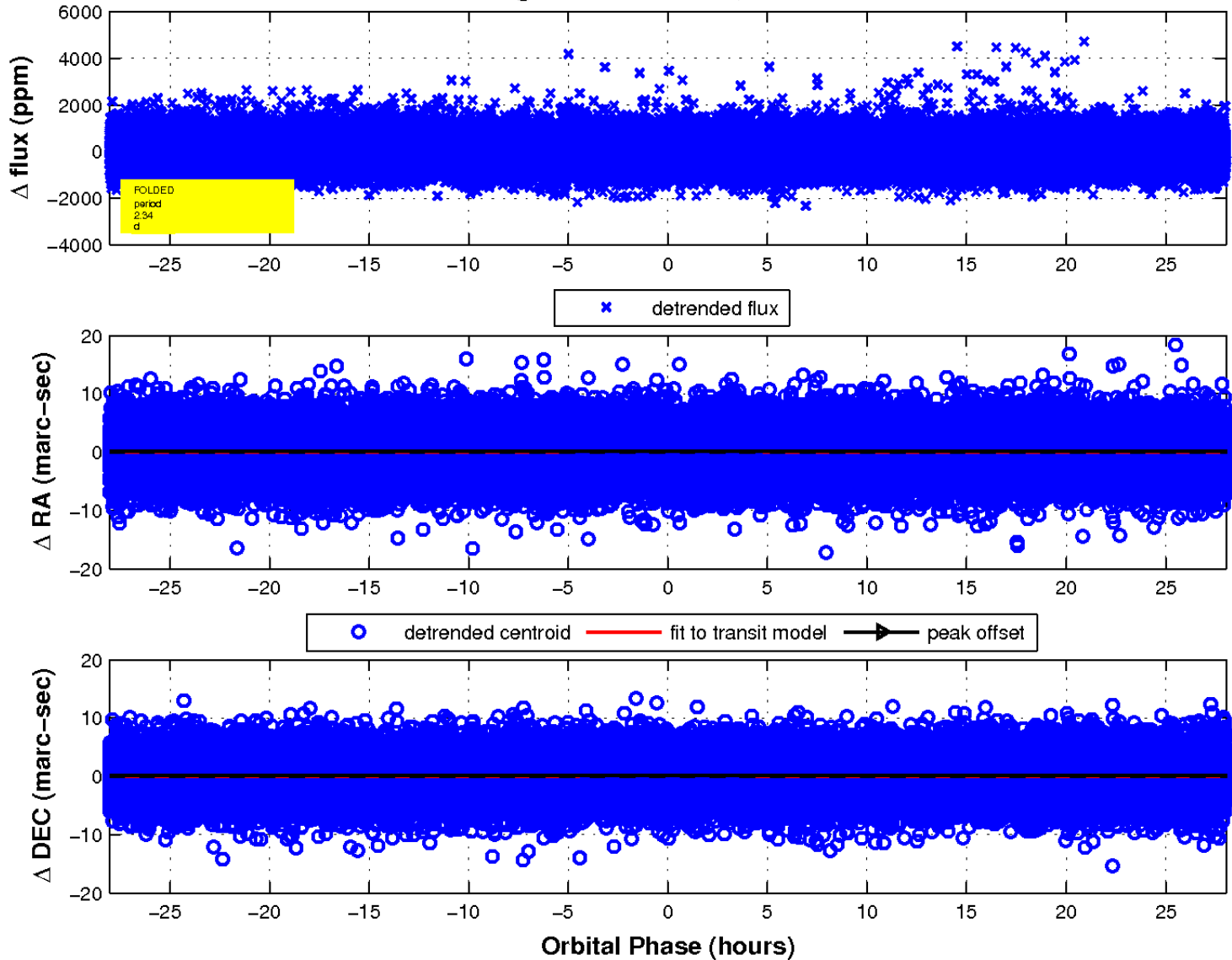
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

